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City of Stockton

Stormwater Management Plan

LARRY WALKER ASSOCIATES

CITY OF STOCKTON
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Section 1
PROGRAM MANAGEMENT

1.1 OVERVIEW

This document outlines the Stormwater Management Plan (SWMP) that has been developed for and will be implemented within the jurisdictional limits of the City of Stockton and the urbanized areas of San Joaquin County. The SWMP, which includes existing and enhanced program control measures, represents the five year strategy for controlling the discharge of pollutants from the municipal storm drain system to the maximum extent practicable (MEP).

The overall goals of the program are to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan area of Stockton. These natural resources include the San Joaquin River and tributary streams and regional groundwater aquifer. The objectives of the SWMP are to:

1. Identify and control those pollutants in urban runoff that pose significant threats to the natural resources and their beneficial uses;

2. Comply with the federal regulations to eliminate or control, to the maximum extent practicable, the discharge of pollutants from urban runoff associated with the metropolitan storm drainage system;

3. Develop a cost effective program which focuses on pollution prevention of urban stormwater;

4. Seek cost effective alternative solutions where prevention is not a practical solution for a significant problem; and

5. Coordinate implementation of control measures with other agencies.

To address these objectives, the SWMP provides for a comprehensive and multidisciplinary effort by the City.

1.2 BACKGROUND

The stormwater pollution control effort, of which this SWMP is a part, is the result of over thirty years of legislative effort beginning with the 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act. The CWA established the National Pollutant Discharge Elimination System (NPDES) program.

The 1987 Federal Clean Water Act amendments created Section 402(p) of the Act which, among other things, mandated permits for municipal stormwater dischargers. Section 402(p) required that the municipal NPDES permits include:

- A requirement to effectively prohibit non-stormwater discharges into the municipal separate storm sewer systems (MS4s); and

- Controls to reduce the discharge of pollutants in stormwater discharges to the maximum extent practicable (MEP), including management practices, control techniques and system, design and engineering methods and such other provisions as the Administrator of the State determines appropriate for the control of such pollutants.

Subsequent regulations promulgated by EPA on November 16, 1990 (40 CFR 122.26 (d)(2)(iv)) required municipal NPDES dischargers to develop a management program to effectively address these requirements.

In response to these regulations, in May 1992 and May 1993 the City developed Part I and Part II permit applications respectively, which served as the genesis to the SWMP contained herein. In February 1995, the City of Stockton and the County of San Joaquin were named as co-permittees in their first term NPDES municipal stormwater permit. The Central Valley Regional Water Quality Control Board (Regional Board) adopted Order No. 95-035 (CA0082597). In October 2002, the first term municipal stormwater permit was replaced with a second term permit, Order No. R5-2002-0181 (CAS083470).

The first term permit required the co-permittees to submit a Report of Waste Discharge (ROWD) 180 days prior to the expiration of the permit. Among other things, the ROWD requires the co-permittees to assess the effectiveness of their stormwater program and determine what additional efforts may be necessary. In response to preparing the ROWD the co-permittees developed the Stormwater Management Program (Plan) in August 1999.

The October 2003 update of the SWMP has been developed in compliance with the second term Permit requirements. Since the ROWD assessment indicated that many of the stormwater program elements were effective in reducing stormwater pollution, most of the previous programs are continued during the second term permit. The revised SWMP proposes a wide range of continuing and enhanced Best Management Practices (BMPs) and control measures which will be implemented over the period covered by the permit (2002-2007). These additional control measures will assist the co-permittees in improving the overall effectiveness of the stormwater program and better focus the specific activities. Where possible, control measures were developed to focus on specific pollutants of concern or sources to enhance pollution reduction and provide increased environmental benefit.

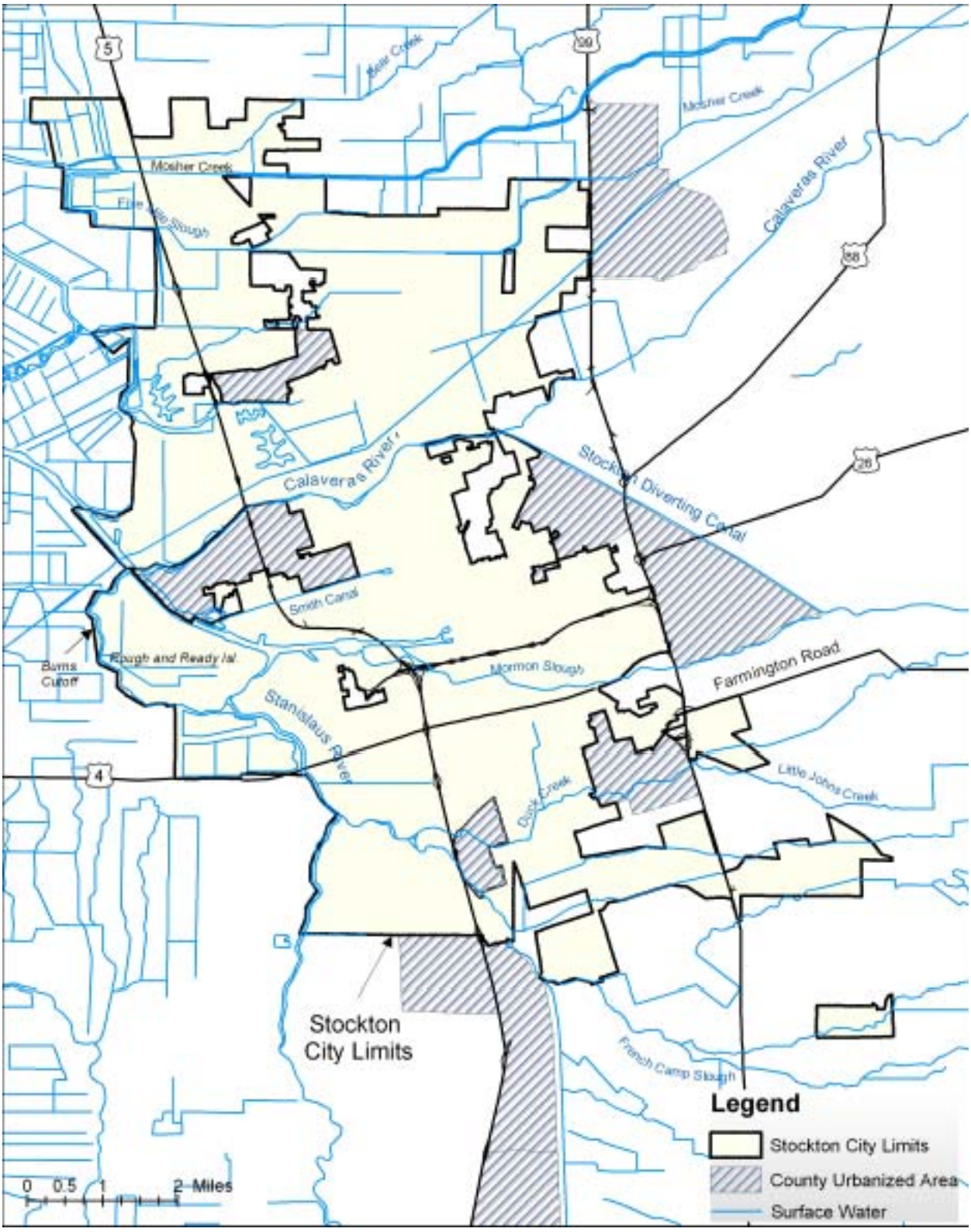
1.3 PERMITTED AREA

The City of Stockton is defined as a medium municipality (population between 100,000 and 250,000) as defined within the Code of Federal Regulations (CFR) 40 CFR 122.26 (b)(7). As such, the City is required to obtain an NPDES municipal stormwater permit for the area under its' jurisdiction.

The County of San Joaquin contains urbanized areas and areas of potential growth, which are enclosed within the limits of the City or surround the City. Due to the proximity of the County's urbanized areas to the City, their physical interconnection to the City's storm drain system and the locations of their discharges relative to the City's system, the County is designated as a part of the medium MS4 in accordance with 40 CFR 122.26 (b)(7) (iii).

The City of Stockton, the urbanized areas of the County that are enclosed within the City, and the urbanized areas of the County which surround the City are referred to as the Stockton Urbanized Area and are subject to the NPDES municipal permit, Order No. R5-2002-0181. This area is presented in **Figure 1-1**.

Figure 1-1
Stockton Urbanized Area Map



1.4 Stormwater Management Plan (SWMP) Organization

The SWMP provides a comprehensive approach for addressing pollutants in stormwater discharges. The SWMP is organized into ten sections. Supporting guidance or implementation tools for each Program Element is provided in corresponding appendices.

Section 1.0 Program Management

This section addresses the program overview, background, management strategy, fiscal analysis and legal authority.

Section 2.0 Illicit Connections/Illegal Discharges

This section describes the program that has been developed to detect, respond to, investigate and eliminate illicit Connections and Illegal Discharges in an efficient and effective manner.

Section 3.0 Public Education

This section describes the public education and outreach program that has been developed to enhance change in behavior and increase the knowledge of target communities to reduce pollutants to the storm drain systems.

Section 4.0 Municipal Operations

This section describes the program that has been developed to address municipal operations so that they are performed in a manner that is protective of water quality and minimizes the potential for pollutants to enter the storm drain system.

Section 5.0 Industrial and Commercial Businesses

This section describes the program that has been developed to inspect and outreach to industrial and commercial businesses.

Section 6.0 Construction

This section describes the program that has been developed to reduce pollutants from construction sites during all construction phases.

Section 7.0 Planning and Land Development

This section describes the program that has been developed to address the reduction of pollutants in new development through better site planning, design practices and post construction controls.

Section 8.0 Water Quality Based Programs

This section provides an overview of the various water quality based programs that are being developed and implemented such as the Pesticide Plan, Pathogens Plan, Dissolved Oxygen Plan and Smith Canal Study.

Section 9.0 Monitoring

This section describes the water quality monitoring program that was developed in order to assess the health of the local water bodies, evaluate selected treatment control Best Management Practices (e.g. detention ponds) and characterize stormwater discharges.

Section 10.0 Program Implementation, Evaluation and Reporting

This section describes the implementation schedule and training program and identifies methods that will be used to evaluate the overall program and reporting requirements.

1.5 Control Measures and Performance Standards

In order to identify the specific actions that the co-permittees will take to comply with the various permit requirements as well as to determine the effectiveness of the program elements, Control Measures and Performance Standards have been identified.

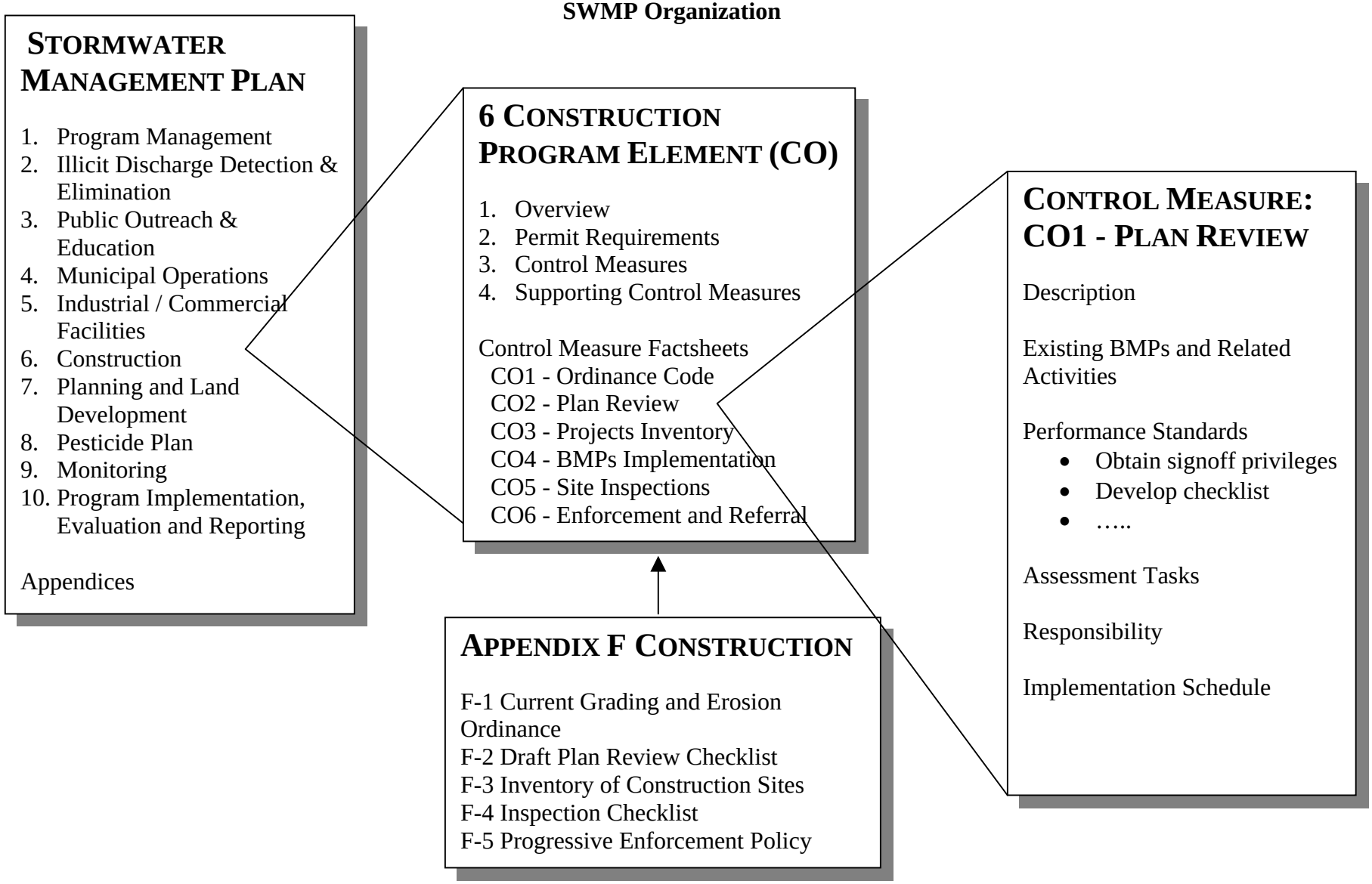
Control measures are activities that the co-permittees must address in order to comply with the permit requirements. Control Measure Fact Sheets have been developed to identify the activities that have to be undertaken. The Fact Sheets were developed as stand alone documents so that they can be individually provided to the responsible department/division.

Performance standards reflect the level of implementation of a control measure. The fact sheets also identify assessment tools that may be used to assess the status and effectiveness of program implementation.

The Fact Sheets also recognize the integration of the stormwater program elements with one another by indicating which control measure from other Program Elements support the implementation of the specific Program Element.

An example of the SWMP organization is presented in **Figure 1-2**.

Figure 1-2
SWMP Organization



1.6 PROGRAM MANAGEMENT

1.6.1 Program Coordination – Co-Permittees

The implementation of the stormwater management program requires a coordinated management effort by the City and County. While named as co-permittees to one permit, the City and County currently have separate programs and submit documents and reports separately to the Board. However, the programs are essentially identical and the co-permittees collaborate with each other to address common issues and to ensure consistency in program development and implementation.

In 1995 the City of Stockton and County of San Joaquin entered into a Memorandum of Understanding (MOU) for filing as co-permittees under one NPDES permit as well as the development of a receiving waters monitoring program (**Appendix A-1**). The MOU also provides a mechanism for the City and County to continue to work cooperatively on the development and implementation of additional NPDES programs such as the Public Education and Outreach program. To facilitate the ongoing communication and coordination between the two agencies, meetings are held on an on-going basis.

The co-permittees will review their existing MOU to ensure that it provides for a designation of joint responsibilities, decision making, information management of data and reports and any other collaborative arrangements that are necessary in order to comply with the NPDES Permit.

Although the co-permittees coordinate the development and implementation of the program with each other, each agency is responsible for implementing the stormwater program within their respective jurisdictions and each has jurisdiction over and/or maintenance responsibilities for storm drains and/or watercourses in the City of Stockton and surrounding urbanized areas of San Joaquin County.

1.6.2 Program Coordination – City of Stockton

The City's Municipal Utilities Department (MUD) Stormwater Management Division has primary responsibility for the development and implementation of the SWMP. Although administered and principally staffed by MUD, the implementation of the SWMP requires the assistance of and close coordination with several other City departments including the following:

- MUD Contract Maintenance Division
- Community Development Department
- Public Works Maintenance Division
- Public Works Engineering Division
- Parks and Recreation Division
- City Attorney

In order to ensure that the various City Departments understand their roles and responsibilities, internal meetings and training sessions are held. In addition, upon request, MUD's Stormwater Management Division provides technical support to the other Departments.

A summary of the Program Elements and responsible departments is presented in **Table 1-1**.

Table 1-1 – City Departments and Divisions Responsible for Implementing the Stormwater Program.

	Illicit Discharge Detection & Elimination	Public Outreach & Education	Municipal Operations	Industrial/ Commercial Facilities	Construction	Planning & Land Development	Water Quality Control Plans
MUD Stormwater Management Division	**P**	**P**	**P**	**P**	**P**	**P**	**P**
MUD Contract Maintenance Division	**S**	**S**	**P**	**S**			
Community Development Dept.	**S**	**S**			**S**	**P**	
Public Works Maintenance Division	**S**	**S**	**S**			**S**	
Public Works Engineering Division	**S**	**S**	**S**		**S**	**S**	
Parks and Recreation Division	**S**	**S**	**S**			**S**	
City Attorney	**S**		**S**	**S**	**S**	**S**	

1.7 FISCAL ANALYSIS

Source of Funds

The City of Stockton funds all of its stormwater related activities through a monthly stormwater user fee of $2.10/equivalent residential unit.

Reporting

As a part of the Annual Report (Section 10.0), the co-permittees report on the current NPDES expenditures as well as the projected expenditures for the next fiscal year. The budget summary includes the expenditures incurred to implement the SWMP. Pursuant to the permit, the co-permittees will revise and standardize their fiscal reporting format.

1.8 LEGAL AUTHORITY

The permit requires that the co-permittees implement a stormwater management program to reduce the pollutants in stormwater discharges to the "maximum extent practicable". Central to this program is the establishment and/or verification that the co-permittees have adequate legal authority to regulate the discharge of pollutants to the MS4.

The City of Stockton and County of San Joaquin are legal entities with the authority to administer, implement and enforce the stormwater management program within their separate jurisdictions. The co-permittees have broad legal authority from stormwater, wastewater, solid and hazardous materials regulations, and various public nuisance ordinances to address stormwater quality issues.

The City enacted a Stormwater Management and Discharge Control Ordinance No. 013-95 (Chapter 7, Part VIII, Section 7-800 to 7-858.2) to specifically control stormwater runoff quality. This ordinance both complements and supplements the existing ordinances and established uniform requirements for protecting and enhancing the water quality of their watercourses, water bodies and wetlands in a manner consistent with the Clean Water Act.

Due to the current legal authority that the City already has, the City Attorney has provided a certified statement of legal authority (**Appendix A-2**). The certified statement recognizes that the City has adequate legal authority to implement and enforce each of the requirements contained in the Permit and 40 CFR 122.26(d)(2)(i)(A-F). In addition, the certified statement recognizes the fact that the City Attorney will need to conduct another review of the City's legal authorities once the City's SWMP and Development Standards have been approved by the Regional Board. If it is determined that additional legal requirements are necessary, additional amendments or Ordinances will then be developed and adopted.

1.9 Program Management Control Measures and Performance Standards

The control measures and performance standards for the overall management of the stormwater program are listed below.

Implementation Schedule

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
Program Coordination	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Division	MUD Maintenance Div.	Community Development. Dept.	Public Works Maintenance. Division	Public Works Engineering Division	Parks and Recreation Division	City Attorney
Co-permittees meet min. 1 time/quarter	X	X	X	X	P						
Review and revise MOU as necessary	X	X			P						S
Establish, review and revise cooperative agreements as needed	X	X	X	X	P						S
Fiscal Analysis											
Revise the fiscal analysis reporting format	X				P						
Legal Authority											
Review and revise the legal authority as needed	X	X			P						S

Section 2 -

ILLICIT DISCHARGE PROGRAM ELEMENT (ID)

2.1 OVERVIEW

An illicit discharge is any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term "illicit discharge" includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Discharge Prohibitions of this Order, and discharges authorized by the Regional Board (i.e. disposal of non-stormwater materials such as paint or waste oil into the storm drain or the discharge of waste streams containing pollutants to the storm drain). A subset of an illicit discharge is an illegal connection. Illegal connections are defined as illegal and/or improper connections to a storm drain system or receiving water. An example would be a sanitary sewer connection to the storm drain.

Because illicit discharges and illegal connections can be a significant source of pollutants to the storm drain system, the purpose of this Program Element is to ensure implementation of a comprehensive program for detecting, responding to, investigating and eliminating these types of connections/discharges in an efficient and effective manner.

2.2 PERMIT REQUIREMENTS

Section D.13 of the Order addresses the provisions to implement the Illicit Discharge Detection and Elimination Program Element. Provision D.13.a. outlines the minimum elements that the program must address. Provision D.13.b. requires that the City maintain a listing of reported illicit discharges and illegal connections on a map using a convenient scale and in a format that is easily discernible. Provision D.13.c requires that the City train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit discharges and illegal connections. Provision D.13.d outlines requirements for addressing illegal connections, specifically conducting dry weather monitoring to identify possible illegal connections and investigating and terminating identified illegal connections. Illicit discharges must be addressed according to requirements presented in Provision D.13.e, including abatement and cleanup and investigation. Specific Permit requirements are addressed in the accompanying Control Measure factsheets.

2.3 CONTROL MEASURES

The Control Measures outlined in **Table 2-1**, and discussed in more depth in the accompanying factsheets, were designed to cover all of the specific requirements in the Permit. For each Control Measure, there are accompanying Performance Standards which, once accomplished, constitute compliance with Permit requirements. The Control Measures comprising this Program Element provide mechanisms for detection and referral of illicit discharges and illegal connections, followed by appropriate investigation and cleanup activities.

Table 2-1 – Control Measures for the ID Program Element.

ID	Control Measure	Permit Provision(s) Addressed
ID1	Detection of Illicit Discharges and Illegal Connections	
	Public Reporting (Hotline)	D.9.f, D.13.a.vi, D.14.a
	Dry Weather Monitoring	D.13.a.i, 13.d.i
	Field Crew Inspections	D.13.a.ii, 13.d.ii.(a) , 13.e.ii
ID2	Elimination of Illegal Connections	
	Investigation and Elimination	D.6.c&g, D.7, D.12.d.i-ii, D.13.a.ii-iii
	Enforcement	D.6.e, D.13.a.iv, D.13.d.ii.(b)
ID3	Investigation and Clean Up of Illicit Discharges	
	Response and Investigation	D.6.g, D.13.a.ii-iii, D.13.d.i-ii, D.13.e.ii
	Cleanup	D.13.e.i
	Recordkeeping and Tracking	D.13.b
	Enforcement	D.6.e, D.7, D.13.a.iv

Permit provision 13.a.viii (prevention of infiltration from sanitary sewers) is discussed under the Municipal Program Element (Section 4).

2.4 Supporting Control Measures

The City has established a 24-hour hotline used to report illegal stormwater discharges. The MUD Stormwater Management Division staff plans to collaborate with the City's Public Work's Department to develop an education program for the 24-hour hotline. Various outreach and education activities promote and provide proper disposal of wastes (e.g., auto waste, household hazardous waste, gardening chemicals, pet waste, green waste) to help reduce illicit discharges. See Section 3 for additional information relating to the promotion of the 24-hour hotline.

Several municipal operations (Section 4) will be improved to minimize illicit discharges. A response plan for spills has been developed (MO1). City facilities and open spaces will be managed to maximize source control and minimize illicit discharges (MO3 and MO4). Municipal field crews are trained and have a protocol for informing MUD Stormwater Management Division staff of evidence of illicit discharges (MO5). Catch basin stencils/markers placed by municipal field crews provide a message not to pollute stormwater runoff (MO5).

The City's plan review and construction inspection process under the Planning and Land Development (Section 7) is the primary effort established to prevent illegal connections to the storm drain system.

2.5 Control Measure Factsheets

ID1 DETECTION OF ILLICIT DISCHARGES AND ILLEGAL CONNECTIONS

DESCRIPTION

Detection of illicit discharges through public hotlines, dry weather monitoring, and field crew inspections is the first step in the ID Program. A comprehensive detection effort lays the foundation for ultimate elimination of illicit discharges.

EXISTING BMPS AND RELATED ACTIVITIES

The City has a number of activities that facilitate the detection of sources of illicit discharges and illegal connections. These include:

- Public Reporting
- Dry weather monitoring
- Field crew inspections

Public Reporting

To assist the public in accessing City government, the City has established a central number that directs phone calls to the appropriate department. The reporting program is based on a published directory that lists the telephone numbers of all City staff and departments. The directory is distributed to all City employees (office and field personnel) who are expected to keep a copy with them during business hours. The directory is designed to facilitate the public's access to the City government by giving every City employee the ability to direct initial inquires to the appropriate department or person. In addition to the directory the following emergency telephone numbers are available to provide access to City departments:

- Service Center Number (209) 937-8341
- 911

During normal business hours, City personnel are available to answer and direct calls to the appropriate department. After hours, calls are automatically deferred to 911 and the Fire Department dispatcher. Each complaint or spill is investigated as soon as possible and tracked to ensure that valuable information is not lost. Internal communication between departments has been established through a series of notification flowcharts for particular types of incidents to ensure response, adequate tracking and corrective actions. Each incident is documented using the incident response form included in the City's Emergency Spill Response Plan (**Appendix B-1**).

Dry Weather Monitoring

The City has established an annual dry weather field screening monitoring program that ensures all outfalls will be surveyed within 5 years. The primary purpose of the monitoring program is to identify any new dry weather flows. Dry weather monitoring also provides a check on the effectiveness of the existing ID Program and supports this Program by identifying "hot spots" and contacting the appropriate clean-up teams. Any significant discharges found are sampled and tested for fecal coliform and detergents to check for illegal sewer and laundry discharges.

Field Crew Inspections

Field staff identifies during their normal maintenance activities signs of previous, current, or potential non-stormwater discharges/connections or illegal dumping into the storm drain system. Once they are discovered, the field staff notifies the MUD Stormwater Management Division for follow-up investigation. The City's primary spill response investigator conducts follow up inspections and accompanies field crews during cleanup to ensure that reported spills are properly cleaned up and identified illicit connections are corrected.

PERFORMANCE STANDARDS

Public Reporting

- Maintain the 24-hour hotline established for reporting of illicit discharges
- Continue to coordinate as closely as possible with other agencies and departments through the implementation of the notification flowcharts included in the Emergency Spill Response Plan to ensure that all reports are appropriately received, routed, and investigated.

Dry Weather Monitoring

- Conduct dry weather monitoring as describe in Section 9.

Field Crew Inspections

- Recognize non-stormwater discharges/connections or illegal dumping as part of City field staff normal, daily activities and report to MUD Stormwater Management Division staff (see Control Measure MO5).

ASSESSMENT TASKS

- Document all reports of illicit discharges, if provided:
  - Responsible party information
  - Location and description of the discharge
  - Materials and waste involved
  - Responses taken to calls

RESPONSIBILITY

The MUD Stormwater Management Division is responsible for this element with cooperation from other City Departments.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
ID1 – Detection of Illicit Discharges and Illegal Connections											
Public Reporting											
• Maintain 24-hour hotline	X	X	X	X	P						
• Continue to coordinate with other departments and agencies	X	X	X	X	P	S	S	S	S	S	
Dry Weather Monitoring											
• Conduct dry weather monitoring	X	X	X	X	P	S					
Field Crew Inspections											
• Document illicit discharges/connections	X	X	X	X	P	S	S	S	S		

ID2 ELIMINATION OF ILLEGAL CONNECTIONS

DESCRIPTION

Similar to the City's efforts to detect and eliminate illicit discharges, the City provides services to detect, investigate and eliminate illegal connections to the City storm drain system.

EXISTING BMPS AND RELATED ACTIVITIES

As noted previously, the City annually conducts dry weather monitoring to characterize the quality of dry weather flows. The results of those field efforts have not indicated that illegal connections were present. The City has not conducted specific field investigation to locate illegal connections. Consequently, City field crews are instructed to notify the Stormwater Division's Environmental Control Officer should they encounter a potential illegal connection that warrants further investigation. Once advised of the situation the City has various methods to investigate sources of illicit discharges including dye or smoke tests, video (TV), construction certification, and an inspection program.

As described in more detail in the Planning and Land Development program element, the City's municipal code (Chapter 16) requires that tentative parcel maps be reviewed and approved consistent with City standards including storm drain standards. Plan review by the City includes confirmation that no illegal connection is proposed. All plan reviews are tracked in a database, along with estimated start time, selected treatment controls, location, project size, and contact information. Construction inspections are conducted upon project completion to ensure that the project was built correctly.

PERFORMANCE STANDARDS

- Continue to investigate and eliminate illegal connections discovered through response to illicit discharges. Ensure that all illegal connections are investigated within 21 days to determine the source of the connection, nature and volume of discharge through the connection, and the responsible party for the connection. Enforcement action should be used as appropriate.
- Continue to coordinate with the Planning and Land Development program to conduct plan reviews and inspect development projects.

ASSESSMENT TASKS

- Report all source tracking information and confirmation of termination of any observed illegal connections as described in ID3.

RESPONSIBILITY

Stormwater Management Division, with assistance from the Municipal Utilities Department, is responsible for responding to illegal connections and undertaking proper enforcement measures to eliminate these connections.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
ID2 – Elimination of Illegal Connections											
Continue to investigate and eliminate illegal connections	X	X	X	X	P	P					
Continue plan review	X	X	X	X	P	P					

ID3 INVESTIGATION AND CLEAN UP OF ILLICIT DISCHARGES

DESCRIPTION

Once an illicit discharge is discovered, the City must respond accordingly. In responding, the City investigates and, if necessary, conducts clean up efforts. Enforcement action is necessary if a responsible party is identified. This Control Measure addresses specific legal authority issues related to illicit discharges and should be implemented in coordination with the City's effort to maintain adequate legal authority for the stormwater program in general.

EXISTING BMPS AND RELATED ACTIVITIES

The City provides a comprehensive approach to reported illicit discharges. This approach includes the following:

- Response and Investigation
- Cleanup
- Enforcement

Response and Investigation

When a notification or compliant is received, the Municipal Utilities Department (MUD) provides an on-site assessment to determine the conditions of the discharge as soon as practicable (during or immediately following containment and cleanup). MUD is responsible for investigating reports of illicit discharges, with other staff within the Department available for backup. The table below provides a summary of the number of reports of illicit discharges that have been investigated by the City during the last three reporting years.

Year	Number of ID Reports Investigated
1999/00	151
2000/01	177
2001/02	297

The investigation process includes determining whether the discharge is occurring on private or public property, whether the discharge is an authorized non-stormwater discharge, and whether the discharge is hazardous. If the illicit discharge is hazardous then City crews follow appropriate protocols in notifying State and local agencies and protecting themselves from exposure. The City has adopted two plans to facilitate consistent and coordinated response to spills and releases:

Emergency Spill Response Plan - 1999
Hazardous Materials Management Plan - 2002

City staff carefully documents the investigation to ensure that accurate information is obtained and all evidentiary requirements are met. The investigation may include one or more of the following:

- Collection of samples and submittal of a Chain of Custody form to the laboratory
- Photographs to record the visual observations and to document evidence for future enforcement action
- Interviews and testimonies

Complete records are kept of field notices and notices of violations given to identified responsible parties. The City completes a detailed description of each report, action taken, and final resolution. A complaint form has been developed to ensure all pertinent information is gathered (**Appendix B-2**).

Cleanup

The main objective of the cleanup effort is to restore the impacted area back to its original state and prevent further environmental degradation in the surrounding area of the incident. During this phase, the MUD Stormwater Management Division staff provides oversight to ensure that the discharge is removed and disposed of properly and to verify cleanup charges. Depending on the incident, the City may serve the owner or occupant of the property with an invoice for the cleanup cost.

The City eliminates any discharge or connection by means of appropriate actions or legal procedures, depending on the type of illicit discharge/connection detected. Illicit discharges are eliminated by contacting the appropriate supervisor who oversees the activities resulting in the discharge and notifying the individual of necessary actions. If hazardous or unknown substances are found, the City notifies Fire Dispatch to request HazMat response. Follow-up is conducted to ensure that abatement activities have been successfully and adequately implemented.

Recordkeeping and Tracking

The City has contracted out development and maintenance of an Illicit Discharge Database. The data fields in the database, the majority of which will be collected by inspectors using the Response Incident Report form, will most likely include the following:

- Investigator/Inspector
- Date (Signed by Investigator/Inspector)
- Date of event
- Time of event
- Type of incident
- Product (if identified)
- Quantity
- Location
- Responsible party
- Address of responsible party
- Phone number of responsible party
- Call received from
- Time call received
- Time other agencies notified
- Time department personnel notified
- Containment cleanup measures (if applicable)
- Date cleanup completed (if applicable)
- List of any chemicals used in cleanup (if applicable)
- Type of enforcement action taken (if applicable)
- Hours worked
- Resources utilized

Information entered into the database will be used to identify target areas for public education and for dry weather monitoring. The database will also serve as a way to track repeat offenders (individuals, locations, and/or businesses) for additional corrective actions.

Enforcement

The ID Program Element provides for a progressive enforcement approach. Typically, the City focuses on public education for residential dischargers with options for progressive corrective actions for repeat offenders. The progressively severe corrective actions involve verbal warnings followed by written warnings and legal action, if necessary. Illicit discharges by businesses are addressed in a more formal manner through issuance of notices of violations, citations, or notices and orders (Cease and Desist) depending upon the compliance history of the facility. Corrective actions are taken in every instance where a responsible party is identified.

To enforce these requirements, existing municipal code provide for effectively prohibiting illicit discharges and illegal connections to the storm drain system.

PERFORMANCE STANDARDS

Response and Investigation

- Respond to illicit discharges. Ensure that staff responds within two business days to reports of illicit discharges, with activities to abate, contain, and clean up all illicit discharges, including hazardous substances.

Cleanup

- Obtain and maintain contractual services for cleanup and removal of hazardous materials.

Recordkeeping and Tracking

- Develop and maintain an Illicit Discharges Database.
- Identify reported illicit discharges in the database on a map using a convenient scale and in a format that is easily discernible. Evaluate the information annually for patterns and trends of illicit discharges, with the objectives of identifying priority areas and tracking repeat offenders for elimination of illicit discharges.

Enforcement

- Develop and implement a progressive enforcement policy and guidance for inspectors. In general, the progression of enforcement (described in detail in **Appendix B-3**) is as follows:
  - Verbal Warning
  - Field Notice of Non-Compliance
  - Cease and Desist Order
  - Legal Action

ASSESSMENT TASKS

- Report on repeat offenders by providing information regarding the number of repeat violations and the incremental enforcement actions taken against them.

RESPONSIBILITY

Typically the Office of Emergency Services contacts a cleanup company to remove hazardous materials. Stormwater Management Division is responsible for investigation of non-hazardous illicit discharges with Municipal Utilities Department responsible for cleanup. Stormwater Management Division also will be responsible for ensuring that the database tracking system for illicit discharges is updated and maintained.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
ID3 – Investigation and Cleanup of Illicit Discharges											
Response and Investigation											
• Continue response to illicit discharges	X	X	X	X	P	S					
Cleanup											
• Maintain contractual cleanup services	X	X	X	X	S	P					
Recordkeeping and Tracking											
• Develop & maintain Illicit Discharge Database	X	X	X	X	P						
• Map illicit discharges	X	X	X	X	P						
Enforcement											
• Develop an enforcement guide	X				P						

Section 3

PUBLIC OUTREACH AND EDUCATION PROGRAM ELEMENT (PO)

3.1 OVERVIEW

The purpose of the Public Outreach and Education Program Element (POPEP) is to inform (increasing knowledge) the public on the impacts of urban stormwater runoff and introduce steps (changing behavior) the public can take to reduce pollutants in stormwater runoff. Also, helping the public and local officials understand the problems associated with urban runoff can help build support for the stormwater program.

The Public Outreach and Education Program Element is designed to implement and evaluate a comprehensive short and long-term public education campaign that will inform the community about how our actions impact stormwater discharges and the negative effect on our local water bodies. The City's outreach and education efforts will evolve throughout the five-year Permit term.

This Program Element is designed to maximize the use of limited resources and to develop partnerships among all stakeholders in the Stockton Urbanized Area. Local stewardship and partnerships among governmental agencies, schools, universities and private interests are vital parts of the types of involvement envisioned in this Program Element.

3.2 PERMIT REQUIREMENTS

Section D.14 of the Order addresses the provision to implement a public outreach and education program. The objectives of the Public Outreach and Education Program Element are to (1) measurably increase the knowledge of target communities regarding storm drains, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience; and (2) to change the behavior of target communities and thereby reduce pollutant releases to storm drains and the environment. Provision D.13.a. requires the City to establish a 24-hour hotline number that will serve as the general public reporting contact for water pollution problems. Provision D.13.b. presents the components that must be part of the program, these include advertising; media relations; public service announcements; "How To" instructional material distributed in a targeted and activity-related manner; business, community association, environmental organization; and events targeted to specific activities, specific pollutants and population subgroups. Provision D.13.c. provides a list of the target audiences that must be addressed.

3.3 CONTROL MEASURES

The control measures outlined in **Table 3-1,** and discussed in more depth in the accompanying factsheets, were designed to cover all the specific requirements detailed in the permit. For each control measure, there are accompanying performance standards which, once accomplished, constitute compliance with permit requirements.

Table 3-1 - Control Measures proposed for the POPEP Program Element

ID	Control Measure	Permit Section(s) Addressed
PO1	Public Participation	14
PO2	Hotline	14.a
PO3	POPEP Implementation	14.b, e
PO4	Public School Education	13.f
PO5	Business Outreach	13.g, h

3.4 SUPPORTING CONTROL MEASURES

This program element is used to educate the public about all aspects of the City's MUD Stormwater Management Division and is closely tied to the Illicit Discharge Program Element with overlapping activities such as the stenciling program and reporting of illicit discharges (i.e. hotline number). By using information from the Illicit Discharge Program Element, outreach and education materials can be more strategically focused toward a particular target audience or pollutant source.

3.5 CONTROL MEASURE FACTSHEETS

PO1 PUBLIC PARTICIPATION

DESCRIPTION

The participation of the public in the City's MUD Stormwater Management Division is critical to a successful effort to protect the City's water resources. Therefore, active public participation is encouraged and supported by the City.

EXISTING BMPS AND RELATED ACTIVITIES

A number of public education and outreach activities, involving citizen volunteers, have been conducted by the City. These activities have included the storm drain marker program in which volunteers install storm drain markers. The City loans the supplies to interested groups and has also coordinated stenciling activities through the citywide Make A Difference Day. During 2001/02, 1,329 storm drain catch basins were stenciled throughout the community.

In addition, the City's stormwater outreach effort has partnered with several groups to participate in community stream cleanup events (**Table 3-2**). The City participated in the following events in 2001/02:

Table 3-2 Summary of Stream Clean Up Events (2001/02)

Date	Clean Up Location/Event	Participants
September 15, 2001	California Coastal Cleanup; seven locations selected from past year's high school and residential group cleanup sites.	Nearly 500 volunteers
October 7, 2001	Mormon Slough	Part of an Eagle Scout Award Community Project
October 27, 2001	Smith Canal from Yosemite Lake to Louis Park	Approximately 25 members of the Friends of Smith Canal
November 27, 2001	Yosemite Lake at American Legion Park	DeltaKeeper staff members worked with 5 students from Delta College
April 13, 2002	Five Mile Slough; 80 storm drain catch basins in the near-by residential community were installed by the students.	40 students from Lincoln High School Environmental Club.
June 22, 2002	Yosemite Lake at American Legion Park	Staff from San Joaquin County Public Works, 15 members of Friends of Smith Canal

PERFORMANCE STANDARDS

- Continue to solicit for volunteers to install storm drain markers.
- Continue to conduct stream clean up events.

ASSESSMENT TASKS

- Track the number of volunteers participating in the storm drain marker and stream clean up activities.
- Estimate the volume of trash removed from the streams.

RESPONSIBILITY

The MUD Stormwater Management Division is responsible for this element with cooperation from other City Departments.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
PO1 – Public Participation											
Continue storm drain marker program	X	X	X	X	P						
Continue to organize, support and/or participate in stream clean up events	X	X	X	X	P						

PO2 HOTLINE

DESCRIPTION

The purpose of this control measure is develop and operate a public hotline number to promote, publicize and facilitate public reporting of illicit discharges, illegal dumping, and other observed pollution problems. This control measure also ensures that through the hotline, complaint information is forwarded to the appropriate contacts for follow-up and/or investigation.

EXISTING BMPS AND RELATED ACTIVITIES

The City has established a 24-hour hotline that will allow the general public to report illegal dumping or illicit discharges into the stormwater system. All calls are documented and each call is responded to as quickly as possible, and if necessary the reporting party is updated on action taken.

PERFORMANCE STANDARDS

- Maintain and publicize the 24-hour hotline.

ASSESSMENT TASKS

Track the number of calls received and associated follow-up actions taken.

RESPONSIBILITY

The MUD Stormwater Management Division is responsible for this element with cooperation from other City Departments, specifically the Public Works Department.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
PO1 – Public Participation											
Maintain hotline number	X	X	X	X	P						
Develop and implement an education program for the 24-hour hotline	X	X	X	X	P			S	S		
Add and update as necessary 24-hour hotline information in telephone book and City's webpage	X	X	X	X	P						

PO3 POPEP IMPLEMENTATION

DESCRIPTION

This control measure provides that a significant number of impressions are made each year on the general public, students, and business owners and operators about stormwater quality. Such outreach communicates the importance of stormwater quality protection and pollution prevention to the City's residents.

EXISTING BMPS AND RELATED ACTIVITIES

Currently the City implements extensive public outreach through a variety of means including newsletters; newspaper, radio, television; participation in City-wide public events where promotional and education brochures are distributed; making presentations to various community groups; and through the Storm Drain Marker Program. **Table 3-3** summarizes outreach efforts by the City in 2001/02.

In addition, the City has conducted the following to support the POPEP program:

Partnering – Partnering with other City Departments, County agencies, local business partners and education groups is an important component of the stormwater outreach effort. A significant partnership developed in 2001/02 was becoming a member of the Adopt-A-Watershed team.

Plant tours – Touring the Regional Wastewater Control Facility (RWCF) is an important part of the outreach community education programs. Tour groups have included students, the League of Women Voters/San Joaquin County, teacher credentialing classes, a local newspaper reporter, and interested members of the public.

Household Hazardous Waste (HHW) Collection – The City continues to work with San Joaquin County in its efforts to bring awareness of its HHW program. Two Stockton-based collection events were held in 2001/02.

Used Oil Recycling - There is a continuous effort underway to educate the citizens of Stockton about the proper management and disposal of used oil. The list of used oil recyclers is posted on the City's website on both the Stormwater and Solid Waste pages. The list is available as a handout at all community events. During the 2001/2002 reporting period, 68,330 gallons were recycled from 25 sites. The City has a new recycling/green waste contract which allows customers to recycle motor oil and oil filters curbside.

Table 3-3 Summary of Outreach Implementation Efforts (2001/02)

Community Events	**Date**
Ag Expo	January 22-24, 02
State of the City	February 7, 02
Earth Day Festival	April 21, 02
Asparagus Festival	April 26-28, 02
Cinco de Mayo	May 5, 02
Black Family Day	September 3, 02
National Pollution Prevention Week	September 17-23, 02
Family Literacy Day in the Park	September 15, 02
Materials Distributed at Community Events	**Number Distributed**
Audubon's 10 Commandments for A Healthy Yard	500
"Only Rain Down the Drain" fish magnets	21
School activity booklets	500
Stenciling brochures	4
School program flyers	10
Stream cleanup flyers	15
"Only Rain Down the Drain" stickers	500
General Outreach	**Description**
Monthly utility bill newsletter	Mailed to 72,00 households and
Employee paychecks	Message printed on back of pay check
City Columns	A stormwater message is included in each edition of the monthly employee newsletter
City Manager's Report	As activity warrants, updates are included in the City Manager's weekly report
City's website	Includes stormwater pages that are updated on an on-going schedule
Stockton City News/Channel 42	Access cable station carries stories, announcements, and public service announcements of pollution prevention events, activities and informational items.
Radio ads	From 1/28-6/16, 2002, 154 60-second radio ads ran on Star 99 radio station. From 2/27-4/30, 2002, 126 60-second general stormwater messages ran on 3 Spanish language radio stations.
Presentations	
Bill Jennings and DeltaKeeper staff	
City of Stockton Civil Service Commission	
40 members of the Stockton Host Lyons Club	
50 members of the No. San Joaquin Section of the California Water Environment Assoc.	
26 teachers from throughout the County participated in the Adopt-A-Watershed two day training on the SSS Reliance	
30 members of the Friends of Smith Canal at a General Membership meeting	

To understand better the level of awareness in the community, the City, in collaboration with the San Joaquin County, conducted a baseline public opinion survey in March and April 2003. The survey results established a baseline for assessing public perceptions and behaviors related to stormwater quality management. These survey results also provided information for developing the Public Outreach Strategic Implementation Plan (**Appendix C-1**) for managing, conducting, and assessing outreach and education activities. **Table 3-4** highlights the significant findings of the survey and the message concepts to be conveyed to reach the strategic implementation plan's objectives:

Table 3-4 Results of baseline public opinion survey, and message concepts to be conveyed to address those opinions

Public Opinion Findings	Message Concepts to be Conveyed to Address Findings
Residents view water pollution as the most serious environmental issue. Concerns about pollution's impact on the natural environment and human health "drive" the intensity of their viewpoint.	▪ Stormwater and urban runoff pick up pollutants from our neighborhoods that pollute our creeks, rivers, sloughs, canals and the Delta. ▪ Stormwater pollution endangers human health, the health of our Stockton environment, our wildlife and our children. ▪ Keeping stormwater and urban runoff clean helps to maintain our quality of life.
While respondents demonstrate awareness that they contribute to pollution, many residents continue to blame others, specifically industry and business, for the majority of the pollution that occurs.	▪ All of us are responsible for keeping our neighborhoods, creeks, rivers, sloughs, canals and the Delta clean and healthy. ▪ Many people think that industry is to blame for water pollution. However it's regular people like you and I who do most of the polluting, according to EPA estimates.
While Stockton Area residents demonstrate awareness of and participate in pollution prevention practices, local variations exist that need to be addressed: ▪ Reported pesticide use is at 39% with 21% of them reporting putting leftovers in the trash. ▪ 62% of respondents take care of their own yards and half of them dispose of yard waste by placing it on the street near the curb. ▪ Of the 36% of residents that have pets, 70% report that they bag pet waste and put it in the trash. ▪ Only 25% of residents report changing their own motor oil. Three out of four (75%) take it to a HHW center or event.	▪ Residents can pollute urban runoff and stormwater. Here's what you can do… ▪ Businesses can pollute urban runoff and stormwater. Here's what you can do…
While the vast majority of Stockton Area residents are aware of the presence of storm drains and waterways, confusion exists in understanding how the storm drain system differs from the sewer/wastewater treatment system.	▪ Wastewater and stormwater are managed by separate systems. ▪ In the Stockton area, stormwater and urban runoff flow untreated through storm drains, underground pipelines and culverts to local creeks rivers, sloughs, canals, and the Delta. ▪ Since stormwater is untreated and reaches our waterways that people and wildlife depend on, it's important to keep stormwater and runoff clean.
Residents are very willing to take responsibility in addressing stormwater pollution and the City of Stockton enjoys a high level of awareness for operation and management of the storm drain system.	▪ The City and San Joaquin County operate the storm drain system for the benefit of its residents to protect the community's quality of life.

The target audiences to be reached with these messages are, in general, the following:

- Municipal departments and personnel
- Construction site owners and developers
- Industrial/Commercial owners and operators
- General public
  - English speaking members of the general public
  - Non-English speaking members of the general public
  - School children
  - Media
  - Community groups
- Quasi-governmental agencies/districts
- Residential community
  - Automobile repair and maintenance, washing and parking: Latino males, 18-34, English and Spanish speaking
  - Home and garden care activities and product use: Adults 55+, homeowners, earning >$50,000, Caucasians
  - Disposal of household hazardous waste: Adults 25+, homeowners
  - Disposal of pet waste: Adults 25+, homeowners, earning >$75,000
  - Disposal of green waste: Adults 25+, homeowners, earning >$75,000.

The media and tools to use in conducting outreach are a combination of mass media (newspapers, radio, signs/billboards, and movie theater advertising, among others), stakeholder groups, community leader meetings, special events, school presentations, brochures, and digital media (website, videos, email, etc.).

The outreach plan's specific performance standards (referred to as "implementation tasks" in the outreach plan) have been incorporated into this Program Element. In addition to regular assessment tasks for each year of the permit term, follow-up telephone surveys of public opinion will be conducted at the ends of Years 3 and 5. The results of these surveys will be the primary method for determining the effectiveness of the control measures included in this Program Element.

PERFORMANCE STANDARDS

Ensure that a minimum of 800,000 impressions per year are made. This will be achieved through the following activities:

- Produce informational materials as necessary to conduct effective public outreach. Review and update current materials as needed.
- Update audiovisual tools as needed. Add new pages website to include selected outreach materials.
- Conduct mixed media campaigns. Produce radio PSAs ,movie theatre slides, print ads and signage. Place in targeted media outlets.

- Conduct mass mailings of how-to instructional material and other stormwater pollution prevention information to each household in the Stockton area.
- Develop overarching campaign approach including creation of a campaign look and feel that will guide subsequent development of all public education materials.
- Conduct editorial and media relations. Create and maintain a database of media sources for use in educating the community about stormwater pollution prevention. Invite broadcast and print media coverage of events. Pitch feature stories and secure interview opportunities on public affairs shows.
- Continue to participate in community-wide events that provide outreach to the general public and co-sponsor neighborhood events that provide to specific pocket communities within the Stockton area. Disseminate culturally appropriate outreach materials at events. Partner with grass roots organizations staging events, e.g. health programs and organizations, cultural groups, environmental groups and others as appropriate.
- Provide community relations.

Assessment Tasks

The POPEP qualitatively and quantitatively documents and evaluates the level of effort expended in implementation of the program and the level of success in increasing awareness and changing behaviors. Quantitative documentation includes accounting for the number of impressions by tracking the number of brochures or other materials distributed, the number of community presentations, the attendance at all events, etc. Qualitative documentation will be solicited through community response forms and evaluation forms given out at community presentations and other events and through public opinion surveys conducted in Years 3 and 5.

Responsibility

MUD Stormwater Management Division staff are responsible for implementing the public education and outreach program.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
PO3 – POPEP Implementation	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
Produce informational materials	X	X	X	X	P						
Update audiovisual tools & website	X	X	X	X	P						
Conduct mixed media (e.g. PSAs, signage) campaigns	X	X	X	X	P						
Conduct mass mailings	X	X		X	P						
Develop campaign approach	X				P						
Conduct editorial & media relations	X	X	X		P						
Participate in community-wide events	X	X	X	X	P						
Provide community relations	X		X		P						
Update Strategic Implementation Plan		X	X		P						

PO4 PUBLIC SCHOOL EDUCATION

DESCRIPTION

Presentations made to school age children are an effective outreach method because the children are asked to pass the pollution prevention information on to their families. This control measure provides public school districts within the City with outreach materials to educate school-age children about storm water pollution.

EXISTING BMPS AND RELATED ACTIVITIES

A 45-minute interactive classroom presentation has been developed which includes a 7-minute video that discusses the water cycle, wastewater, and water conservation. The program was developed to help teachers meet the science component of the California Content Standards for 5th and 6th grades. Each student receives an "Only Rain Down the Drain" activity booklet and sticker. Each teacher receives a packet of information on water, wastewater, stormwater, information from the Department of Water Resources on free supplies and materials to teachers. **Table 3-5** summarizes school outreach efforts during the past two reporting years.

Table 3-5 Summary of Classroom and After School Program Presentations Conducted

Year	**2000/01**	**2001/02**
Classroom		
Number of Presentations	63	47
Number of Schools	19	14
Number of Students	1,889	1,462
Grades included	4th, 5th, and 6th	4th, 5th, and 6th and one high school presentation
After School Program		
Number of Presentations	41	71
Number of Schools	12	19
Number of Students	692	1,315
Grades included	Elementary	5th and 6th

The Stormwater Outreach effort partnered with the City's Parks and Recreation Department to make presentations as part of its After School Program. The presentations were shortened versions of the classroom presentation and included viewing the "Only Rain Down the Drain" video and demonstrations with the watershed model. Each student receives an "Only Rain Down the Drain" activity booklet and sticker.

PERFORMANCE STANDARDS

To ensure education of 50% of all school children in grade 5 every two years on storm water pollution, the following will be conducted:

- Continue to make presentations in elementary school classrooms, specifically fifth grade, and provide instructional materials to students and educators.
- Maintain the partnership with the City of Stockton Parks and Recreation Department to include stormwater presentations in the after school program.
- Send flyers to designated schools to promote classroom program or availability of materials for teachers' use.

ASSESSMENT TASKS

Document the number of classroom and after school presentations made and the number of students in attendance.

RESPONSIBILITY

MUD Stormwater Management Division staff are responsible for implementing the public education and outreach program. The Stormwater Management Division will continue to partner with the City Parks and Recreation Department to conduct the after school program presentations.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
PO4 – Public School Education	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
Educate 50% of all school children in grade 5 every two years on storm water pollution	X	X	X	X	P					S	

PO5 BUSINESS OUTREACH

DESCRIPTION

Various commercial and industrial businesses are sources of stormwater pollutants and need to be addressed by the City. This control measure will educate and inform business owners and operators about stormwater quality and impacts on water resources. Efforts are targeted at specific business; an emphasis will be placed on educating auto shops and restaurant chains.

EXISTING BMPS AND RELATED ACTIVITIES

The City of Stockton is a lead partner in the Targeted Opportunities to Prevent Pollution in San Joaquin County (TOPPS) organization which is a public-private partnership formed for the sole purpose of providing educational and support on pollution prevention to business, industry and agriculture in San Joaquin County. The membership continues to increase. TOPPS sponsors two major events each year - Solutions for Compliance Workshop in April (to coincide with Earth Day), and the Mayor's Environmental Excellence Award held in September as part of National Pollution Prevention Week.

The Stormwater Management Program conducted a three-year grant program which provided $475,000 in funding from the State Water Resources Control Board. The funding was made available to businesses to implement structural and program Best Management Practices (BMPs) to reduce stormwater runoff in the Deep Water Channel Watershed. As summarized below, both business and education applicants participated:

Business Applicants	**Education Applicants**
Downtown Stockton Alliance	Deltakeeper
Stockton Clutch and Brake	TOPPS
Goodwill Industries of San Joaquin Valley, Inc.	San Joaquin Co. Office of Education
Oak Manor Apartments	Children's Museum of Stockton
California Detailing	
Baglietto Seeds	

In addition, as mentioned in PO3, the City has developed a Public Outreach Strategic Implementation Plan which includes business outreach efforts (**Table 3-6**). Many outreach materials have been produced, including the following:

Table 3-6 Summary of Existing Business Outreach Materials

Brochures	
Earth-Moving Activities	Pollution Prevention on Your Boat
Roadwork and Paving	Pollution Prevention in Your Garden
Concrete Application	Pollution Prevention in Your Garage
Paints and Solvents	Pollution Prevention Inside Your Home
Landscaping and Pool Maintenance	Stormwater Pollution Prevention
TOPPS Brochures	
Restaurants	Good Cleaning Practices – Food & Restaurant Industry
Auto Care Businesses	
Videos	
Only Rain Down the Drain: Stockton Restaurants Protect the Delta	Only Rain Down the Drain: Stockton Auto Shops Protect the Delta
Posters	
Good Cleaning Practices – Auto Repair Industry	

PERFORMANCE STANDARDS

- Distribute educational material regarding stormwater pollution and BMPs, stormwater regulations, and penalties for noncompliance to the following businesses:

  - Auto washing and detailing
  - Carpet cleaning
  - Commercial pesticide application
  - Concrete pouring contractors
  - Concrete cutting
  - General building contractors
  - Landscape installation and/or maintenance contractors
  - Paint contractors
  - Portable toilet rental
  - Pressure washing
  - Street sweepers
  - Swimming pool contractors and maintenance providers

- Distribute outreach materials to residential and commercial builders presenting information on statutes and regulations prohibiting discharge of sediment and other pollutants from their sites into the storm drain system; guidance documents available for selecting and installing BMPs; and penalties for noncompliance.

ASSESSMENT TASKS

Track the number of brochures and other outreach materials distributed to each specific business.

RESPONSIBILITY

MUD Stormwater Management Division staff are responsible for implementing the public education and outreach program. The MUD Stormwater Management Division will continue to partner with the City Parks and Recreation Department to conduct the after school program presentations.

SCHEDULE

Control Measures and Performance Standards	Implementation Schedule				Responsibilities						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt. Div.	MUD Maint. Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div..	Parks and Recreation Div.	City Attorney
PO5 – Business Outreach											
Conduct business workshops not less than twice during the five-year permit term	X		X		P						
Distribute educational material to selected businesses.	X	X	X	X	P						
Conduct specific outreach to residential and commercial builders		X		X	P					S	

Section 4
MUNICIPAL OPERATIONS PROGRAM ELEMENT (MO)

4.1 OVERVIEW

The City, as part of its normal operations, conducts a number of activities (e.g., storm drain cleaning, street sweeping) that generate or mobilize pollutants. The Municipal Operations Program Element is comprised of Control Measures designed to ensure that these operations and maintenance (O&M) activities are performed in such a way as to minimize the pollutants generated and potential for pollutants to enter the storm drain system.

In an audit conducted by the US EPA, the City was recognized for establishing a balanced and focused program structure for stormwater management. In particular, the roles and responsibilities are clearly described and the staff members are experience and well trained. The Stormwater Program activities and requirements are well disseminated throughout the appropriate City departments and field staff.

4.2 PERMIT REQUIREMENTS

Section D.12 of the Order includes requirements for the City's municipal program. Each subsection of D.12 covers a distinct municipal activity including: sanitary sewer overflow prevention and response, municipal construction, material storage facilities, corporation and vehicle maintenance yards, landscape and pest management, storm drain maintenance, street cleaning and maintenance, parking lot maintenance, and natural disaster emergency procedures. The final aspect of Section D.12 in the Order requires performing a treatment feasibility study for dry weather flows in the storm drain areas of the City. The study is addressed outside of this SWMP.

4.3 CONTROL MEASURES

The Control Measures for the Municipal Operations Program Element and the Permit sections they address are listed in **Table 4-1**. For each Control Measure, there are accompanying Performance Standards which, once accomplished, constitute compliance with Permit requirements. The Control Measures consider all major municipal facilities and activities that could potentially be sources of pollutants to the storm drain system.

Table 4-1: Control Measures for the Municipal Operations Program Element.

ID	Control Measure	Permit Provision(s) Addressed
MO1	Sanitary Sewer Overflow Response Plan	D.9.f, D.12.b.i, D.13.a.v
MO2	Construction Requirements for Municipal Capital Improvement Projects	D.12.b.ii
MO3	Pollution Prevention at City Facilities	D.9.f, D.12.b.iii, D.12.b.ix
MO4	Landscape and Pest Management	D.12.b.iv
MO5	Storm Drain System Maintenance	D.6.f&h-i, D.12.b.v-vi
MO6	Street Cleaning and Maintenance	D.12.b.vii.(a)-(d)
MO7	Parking Lots Maintenance	D.12.b.viii
MO8	Emergency Procedures	D.9.f, D.12.b.x

4.4 Supporting Control Measures

Many of the Control Measures of the Municipal Operations Program Element are supported through other program elements and corresponding control measures. City capital improvement projects (CIP) will adhere to the guidelines presented in New Development (Section 7) and Construction (Section 6) Program Elements. Requiring City contractors to use the least toxic or non-toxic methods of landscape and pest management will require adequate legal authority (Section 1) and consistency with the City's Pesticide Plan (Section 8). Outreach (Section 3) and training (Section 10) afforded municipal employees provides the foundation for implementing the Municipal Operations Program Element Control Measures.

4.5 Control Measure Factsheets

MO1 SANITARY SEWER OVERFLOW RESPONSE PLAN

DESCRIPTION

The Sanitary Sewer Overflow (SSO) Response Plan minimizes potential impacts from sanitary sewer overflows and spills. Sanitary overflow and spill response is comprised of three steps: investigation of complaints, containment, and notification to appropriate agencies. Follow-up to an overflow or spill includes procedures to be implemented for preventing spills and leaks from entering the storm drain system. Repair and remediation activities for the sanitary sewer are also outlined in the Control Measure.

EXISTING BMPS AND RELATED ACTIVITIES

The City currently maintains an Emergency Spill Response Notifications procedure for all potential types of spills from municipal facilities including SSO response (see **Appendix B-1**). The notifications procedures are arranged as a series of flowcharts, each describing the chain of notifications for the different types of spills. Initial notifications to the City's Regulatory Control Officer (RCO), City Department, and Public Works are detailed on each of the flowcharts. Under normal conditions, the staff reporting the incident will contact the RCO who will then make all necessary government and regulatory notifications. In the event the RCO is unavailable, all necessary contact information is included in the notifications procedure. The chain of contacts is to be followed until verbal contact is made, additional response assistance has been secured, and help is on the way. Necessary forms are included in the notifications procedure along with filled-in examples of each form. If safety allows, the City's Maintenance Staff Guide calls for blocking the storm drains near the spill to prevent contamination of the system. At anytime the spill exceeds personnel's abilities, they are directed to notify 911 immediately.

The City's current program to limit infiltration of seepage from sanitary sewers and septic systems uses a combination of inspection to ensure proper construction of sanitary systems, televising of existing storm drain lines, reporting by experienced maintenance personnel of sewage in the storm drain system, and dry weather sampling. During the construction phase, regular inspection ensures verification of leak testing, no cross connections, and televised final check of construction quality.

If cross connections or infiltration is suspected to a storm drain, it is televised. In 2001/2002 6,400 lineal feet of storm drain were televised. The standard practice for Municipal Utility's maintenance personnel is to report any sewage discovered in the storm drain system for further investigation. Analyses of dry weather storm drain samples include bacteria, providing a check for sanitary infiltration.

The complaint Hotline (see Control Measures ID1 and PE2) is maintained by the City with the Hotline number included on all stormwater public outreach materials. Both sanitary sewer and storm drain complaints are received by the Hotline. Proper notification of both departments follows logging of complaints received. Reports of SSOs via the Hotline are investigated immediately.

PERFORMANCE STANDARD

- Continue to investigate and respond immediately to evidence of SSOs.
- Continue sanitary sewer and storm drain cross connection review and implement follow-up action as necessary.

ASSESSMENT TASKS

- Document responses to reported SSOs.
- Document maintenance of sanitary sewers and storm drains.

RESPONSIBILITY

MUD Stormwater Management Division staff are primarily responsible for review and modification of the SSO Cleanup Procedures. MUD Maintenance will need to work with the MUD Stormwater Management Division to ensure procedures are feasible and appropriate.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO1 Sanitary Sewer Overflow Response Plan											
Continue response to SSOs	X	X	X	X	P	S					
Continue cross connection review	X	X	X	X	P	S					

MO2 CONSTRUCTION REQUIREMENTS FOR MUNICIPAL CAPITAL IMPROVEMENT PROJECTS

DESCRIPTION

The Construction Requirements for Municipal Capital Improvement Projects Control Measure provides protocols to be followed in the design and construction phases of capital projects undertaken by the City. In essence, the City will follow the Development Standards and Construction Program Element requirements for all capital improvement projects (CIP), and obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit) for projects over one acre in size.

EXISTING BMPS AND RELATED ACTIVITIES

By City Ordinance any construction project, including CIPs, subject to the building code requires a SWPPP. All plans for construction projects with SWPPPs are routed through the MUD Stormwater Management Division for review to ensure appropriate stormwater BMPs are specified. Currently, the City is developing a formal checklist for plan review as part of the Planning and Land Development Element of the Stormwater Program (see Control Measure LD3).

A notice of intent (NOI) is prepared and submitted for each CIP greater than 1 acre in size, thereby obtaining the proper coverage under the State Construction General Permit.

PERFORMANCE STANDARDS

- Continue to require all CIP are reviewed by Stormwater Management Division staff to ensure New Development Standards and construction BMPs are followed during project design.
- Continue to require coverage under the Construction General Permit for CIP sites greater than one acre.

ASSESSMENT TASKS

- Document that City-owned construction sites are covered by the Construction General Permit.

RESPONSIBILITY

The Public Works Engineering Division is primarily responsible for obtaining coverage under the State Construction General Permit for capital improvement projects (CIPs) with the MUD Stormwater Management Division providing a check to ensure the coverage is obtained. Training of Public Works Engineering Division staff of construction BMPs is the responsibility of the Stormwater staff. Public Works Engineering Division staff are responsible for specifying the most appropriate BMPs for each aspect of CIPs. MUD Stormwater Management Division staff are responsible for review of CIPs to ensure the specified construction BMPs are appropriate.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO2 - Construction Requirements for Municipal Capital Projects											
Review CIP designs to ensure specifications and notes are included	X	X	X	X	P				S		
Require submission of NOI for CIP greater than 1 acre	X	X	X	X	P						

MO3 POLLUTION PREVENTION AT CITY FACILITIES

DESCRIPTION

Storm Water Pollution Prevention Plans (SWPPPs) includes a site description and identify BMPs that address potential sources of pollutants to storm drains. Developing and implementing a SWPPP ensures that pollutants entering the storm drain from the City's corporation yard are minimized to the maximum extent practicable (MEP).

EXISTING BMPS AND RELATED ACTIVITIES

The City currently has one corporation yard subject to a SWPPP. The City has developed and has been implementing BMPs for a wide variety of activities at the corporation yard, including material storage control, vehicle maintenance, and illicit discharges. The equipment wash area is currently plumed to the sanitary sewer.

The Corporation Yard was inspected as part of a Stormwater Program Audit conducted by the USEPA. The inspection yielded several suggested improvements to operation and management of the corporation yard. The City has incorporated each of the suggestions into a revised SWPPP.

PERFORMANCE STANDARDS

- Continue implementation of the revised the SWPPP for the corporation yard and other facilities.
- Annually review capital improvement projects (CIP) lists to identify projects for new or existing municipal facilities that have vehicle or equipment wash areas. Coordinate with the MUD Divisions to determine the level of pre-treatment required for connecting vehicle and equipment wash areas to the sanitary sewer. Require wash areas to be connected to sanitary sewer.

ASSESSMENT TASKS

- Annually inspect each vehicle maintenance, material storage sites, etc. to verify implementation of SWPPPs.

RESPONSIBILITY

The Public Works Maintenance Division staff are responsible for developing SWPPPs for City facilities as necessary. The Stormwater Management Division staff will assist the Public Works Maintenance staff as necessary. As part of the plan review and inspection process, the Stormwater Staff will be responsible of ensuring vehicle and equipment wash area drains at CIPs are plumed to the sanitary sewer, or other BMPs are properly implemented.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO3- Corporation Yards											
Implement Corporation Yard SWPPP		X			S			P			
Review CIP projects for wash areas	X	X	X	X	P				S		

MO4 LANDSCAPE AND PEST MANAGEMENT

DESCRIPTION

The Landscape and Pest Management Control Measure ensures that the discharge of pollutants from the City's use and storage of fertilizers, herbicides, and pesticides is reduced to the maximum extent practicable (MEP). BMPs appropriate to the Control Measure promote the use of integrated pest management (IPM), and retention and planting of native plant species requiring less water and chemical augmentation to remain healthy. By choosing less toxic and non-chemical landscaping methods, the City will serve as positive example to citizens.

EXISTING BMPS AND RELATED ACTIVITIES

The City of Stockton Golf Courses Non-Stormwater Discharge Prevention program (see **Appendix D-1**) could serve as a model for a City-wide landscape and pest management program. Chemicals are stored in a central facility, meeting OSHA, HAZMAT, and County Agricultural Commissioner's requirements by providing secure storage and spill control. All vehicle maintenance is performed at the City corporation yard. Landscaping is performed for maintaining a healthy landscape, where grass clippings are not removed from mulched areas and pruned branches are chipped for composting. A regular fertilizer program insures healthy turf for prevention from disease and insects. Pesticides are used as a last resort conforming to a sound integrated pest management program. To maximize the benefit of applications, all chemicals are applied at the minimum dose while avoiding run off and wind drift. Native plants and trees are used whenever possible to reduce water needs while promoting resistance to disease and pests.

City departments are responsible for their own pesticide use, record keeping, and submission of reports to the San Joaquin County Agricultural Commissioner. Pesticide use is compiled annually by a designated Pest Control Manager and submitted to the Stormwater Management Division. Parks and Recreation Procedures Directive 139 "Pesticide and Fertilizer Control Program" (see **Appendix D-2**) assures the proper storage, mixing, use, and disposal of pesticides and pesticide containers. In reference to the plan, pesticide is defined in the procedures directive to include pesticides, insecticides, germicides, rodenticides, algecides, fungicides, herbicides, miticides, molluscide, and fertilizers. The facility supervisor is responsible for ensuring the employees have the proper training and certifications to use pesticides, and the employees are responsible for adhering to the procedures. Only pesticides approved by the Pest Control Manager may be used, and all pesticides may only be applied by certified pest control applicators, or under close supervision by a certified applicator. Pesticides are purchased in quantities that will be exhausted within 6 months to 1 year. All pesticides are stored according to the label requirements, in designated pesticide storage areas. Mixing and loading procedures designed to minimize the risk of spills are included in the procedure. Pesticide spill response and notifications are discussed.

Both the Program Manager and the Outreach Coordinator from the Stormwater Management Division have attended several workshops at UC Davis to begin to prepare for the Integrated Pest Management (IPM) requirement of the Permit. Both have also attended the Landscaped

Maintenance Operation Program (LMOP) sponsored by the County Solid Waste Division. Membership of LMOP includes 80 independent maintenance companies. Quarterly meetings are held to learn more about IPM and using less toxic products.

No aquatic pesticide application is performed by the City. Mosquito abatement is the responsibility of the San Joaquin County Mosquito and Vector Control District. In order to abate mosquitoes, District staff typically release mosquito fish into standing water bodies instead of spraying pesticides.

Pruning and inspection of trees bordering streets occurs on a regular cycle. Crews are assigned daily duties, by priority, throughout the city and its seven tree maintenance districts. A database providing an inventory of each tree within a district, recorded by street address is maintained by the City. The address is used to monitor maintenance and citizen requests for the lifespan of each tree.

The City maintains a list of trees acceptable for planting in street right-of-ways (ROW), based on growth and ability to provide the proper clearance over the sidewalk and street. The list of trees could be updated to include preference for native, drought tolerant, and disease and insect resistant species that provide the appropriate clearances.

PERFORMANCE STANDARDS

- Investigate expanding the Parks and Recreation Golf Course procedures to include other City operations and landscaping activities.
- Review and revise as necessary Parks and Recreation protocols for routine and non-routine use of pesticides, herbicides, and fertilizers. The protocol should include:
  - No application of pesticides or fertilizers immediately before, during, or immediately after a rain even or when water is flowing off the area or when fog is present if using spray application;
  - No banned or unregistered pesticides are applied or stored by the City;
  - Require fertilizer and pesticides are stored indoors, or under cover on paved surfaces, or protected by secondary containment
  - Inspect storage areas annually
- Implement an IPM program requiring the use of less toxic or non-toxic approaches to pest management.
- Review and modify as necessary City standards to require pesticide, herbicide, and fertilizer application contractors to abide by the standardized application protocol.
- Review and revise as necessary Landscaping Standards to promote:
  - Planting and retention of native species
  - Minimization of water use, pesticides, fertilizers, and herbicides.

ASSESSMENT TASKS

- Document modification of standardized application protocol.
- Document revisions to and approval of Landscaping Standards.

RESPONSIBILITY

The pesticide and IPM outreach efforts will be spearheaded by the Stormwater Management Division. Updating the Landscaping Standards is the responsibility of the Parks and Recreation Division with assistance from Stormwater Management Division staff as necessary.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO4 - Landscape and Pest Management											
Consider expanding golf course procedures to all City parks	X				P	S					
Modify pesticide, herbicide, and fertilizer application protocol	X				S					P	
Implement IPM Program		X	X	X	P			S	S	S	
Review and revise standards to require contractors to abide by the standard application protocol	X	X	X	X	P						S
Review and revise Landscaping Standards	X	X			P					S	

MO5 STORM DRAINAGE SYSTEM MAINTENANCE

DESCRIPTION

The Storm Drain System Maintenance Control Measure provides for the long-term performance and integrity of the City's storm drain system. The City will prioritize catch basins based on the required level of maintenance. Stenciling and cleaning of the catch basins requirements are included in this Control Measure. Special event requirements to prevent accumulation or cleaning of trash and debris from catch basins and storm drains is a component of the Control Measure. Finally, record keeping and maintenance are addressed.

EXISTING BMPS AND RELATED ACTIVITIES

The City maintains detailed mapping of the storm drain system including all catch basins.

The City currently cleans each catch basin on an as needed basis. An inspection of each basin precedes the cleaning. If evidence of illicit discharge is found, the catch basin location is referred to the Stormwater Management division. However, the City has established prioritization criteria for cleaning catch basins and sumps (see below). These criteria are described in detail in **Appendix D-3**.

Ranking Criteria for Cleaning of Catch Basins and Sumps.

Priority	Relevant Conditions	Inspection & Cleaning Frequency
A (High)	Catch basins with >40% debris accumulation per year *and* discharges directly to waters of the State.	Clean once prior to the wet season(1)
B (Medium)	Pump stations sumps	Inspect annually, clean as necessary with minimum of once every two years
C (Low)	Catch basins with <40% debris accumulation per year *and* discharges directly to waters of the State.	Inspect annually and clean as necessary

(1) "Prior to the wet season" is the period July – October.

Maintenance on detention basins is performed predominantly in the summer and fall. Maintenance activities include removal of vegetation and debris. Debris is removed and disposed of in accordance with regulatory requirements. Chemical amounts by type applied for each detention basin are tracked. Chemicals are applied only to perimeter fencing, frontage roads, and around pump houses. Slopes and drainage areas are maintained using mechanical methods to promote vegetation growth, lessen erosion, and prevent discharge of chemicals into local waterways. Public Works Maintenance Division contracts out the maintenance of the detention basins. The City has developed draft maintenance procedures for the detention basins

(see **Appendix D-3**). The contract language will need to require the contractor to follow adopted protocols.

The City's Municipal Utilities Department maintains an aggressive maintenance program for the drain system which includes main lines, catch basins, and catch basin laterals. Records are maintained for numbers of catch basin grates and laterals unplugged, main lines unplugged, catch basins cleaned, catch basin laterals cleaned, main lines cleaned, and lines TV'ed.

Periodically, special events occur at City owned and operated facilities (including parks). Typically, the City issues Special Use Permits that may or may not have provisions to control trash and debris during special events. The special use permit requirements for ensuring litter and recycling control are included in **Appendix D-4**

PERFORMANCE STANDARDS

- Implement a maintenance program for catch basins consistent with cleaning frequency noted above:
  - Maintain records of stenciling, maintenance activities, condition of catch basin, and quantify of waste removed.
  - Ensure proper disposal of materials cleaned from catch basins.
  - Place markers on catch basins as necessary.
- Implement a maintenance program for City-owned pump station sumps that includes:
  - Visually monitor for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;
  - Review current maintenance activities to ensure that appropriate stormwater BMPs are being utilized to protect water quality;
  - Schedule the removal of trash and debris based on the visual monitoring;
  - Minimize the discharge of contaminants during maintenance and clean outs;
  - Properly disposal of material removed; and
  - Keep records of drainage structures cleaned and maintained.
- Require City retained contractors to implement a maintenance program for detention basins that includes (Draft procedures described in **Appendix D-5**):
  - Inspection and cleaning frequency
  - BMPs
  - Recordkeeping requirements.
- Require the proper management of trash and litter generated at any special events that can be reasonably expected to generate substantial quantities of trash and litter.
- Develop and implement a protocol for notifying the MUD Stormwater Management Division:
  - Illegible inlet stenciling or missing marker (to be re-stenciled within 180 days)

ASSESSMENT TASKS

- Compile and review data collected under catch basin maintenance program.
- Compile and review data collected under pump station maintenance program.

- Compile and review data collected under detention basin maintenance program.
- Document incorporation of special use provisions regarding management of trash and debris at special events.

RESPONSIBILITY

MUD Stormwater Management Division staff will be responsible for developing and implementing the notification protocol for field staff to report catch basins with missing or illegible stenciling. With guidance and assistance from MUD Stormwater Management Division staff, the MUD Maintenance staff will be responsible for implementing the catch basin maintenance program. The Stormwater Staff will be responsible for developing special use permits with the assistance of the Parks and Recreation Division. The MUD Stormwater Management Division staff will be responsible for the prioritization of the detention basins using the information provided by the MUD Management and Parks and Recreation staff. Stormwater Management staff will be responsible for developing BMP for drainage system maintenance activities.

The Stormwater Management Division is responsible for maintaining and updating a tracking system for inspection and maintenance of the storm drain system.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO5 - Storm Drainage System Maintenance											
Implement catch basin maintenance program	X	X	X	X	S	P					
Implement pump station maintenance program	X	X	X	X	S	P					
Finalize and implement detention basin maintenance program	X	X	X	X	P						S
Develop and implement notification procedures	X	X	X	X	P	S		S		S	
Adopt Special Use Provisions	X	X	X	X	P			S		S	S

MO6 STREET CLEANING AND MAINTENANCE

DESCRIPTION

The Street Cleaning and Maintenance Control Measure ensures that City streets are maintained and cleaned to reduce pollutants to the maximum extent practicable (MEP). In conducting the Control Measure, the City will prioritize the streets or segments of streets based on the required level of maintenance. Street sweeping requirements and road maintenance materials control are a component of the Control Measure.

EXISTING BMPS AND RELATED ACTIVITIES

Currently, the City performs street sweeping in residential areas twice monthly. The City also maintains a program to pick up leaves in certain problem areas twice each fall. The City maintains records of tonnage removed by month for litter, garden refuse, and street sweeping. However, the City has recently established prioritization criteria for street sweeping and presented in **Table 4-1**. These criteria (and the frequency schedule following) are described in detail in **Appendix D-6**.

Table 4-1: Recommended Street Sweeping Program Prioritization Scheme for the City.

Priority	Streets and/or Street Segments Designated in Permit	Applicable Land Use
A	Consistently generating the highest volumes of trash and/or debris	Downtown
B	Consistently generating moderate volumes of trash and/or debris	Residential; Industrial and Commercial
C	Generating low volumes of trash and/or debris	Open space

Based on the ranking criteria, the recommended minimum sweeping schedule is listed in **Table 4-2**.

Table 4-2: Recommended Minimum, Street Sweeping Frequency for the City.

Location	Priority	Sweeping Frequency
Downtown (including parking lots)	A	Two times per month
Residential	B	Once per month
Industrial	B	Once per month
Commercial	B	Once per month
Open space	C	As necessary

The City Public Works Maintenance Division has an established pavement maintenance program that addresses the removal and proper disposal of pavement material, paint residue, and other construction waste. A street sweeper is permanently assigned to each road crew to facilitate minimum daily and more frequent as needed clean-up of debris. The Staff Maintenance Guide details BMPs for a wide variety of maintenance activities.

PERFORMANCE STANDARDS

- Implement street sweeping frequency based on prioritization and schedule described above.
- Develop BMPs for maintenance to ensure that:
  - Wastewater from street sweeping and street sweeper rinse out is not discharged to the MS4;
  - Saw cutting wastes are recovered and disposed of properly and that waste is not to be left on a roadway or allowed to enter the storm drain;
  - Concrete and other street and road maintenance materials and wastes are properly managed and are not allowed to enter the storm drain; and
  - Concrete trucks and chutes are only washed out in designated areas and discharge is not allowed to enter the storm drains, open ditches, streets, or catch basins.

ASSESSMENT TASKS

- Maintain record of materials removed under street sweeping program.
- Document development of BMPs to protect stormwater during street maintenance activities and small construction projects.

RESPONSIBILITY

The Public Works Maintenance Division is responsible for implementation of the street sweeping program.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO6 - Street Cleaning and Maintenance											
Implement street sweeping program	X	X	X	X	P			S		S	
Develop BMPs for maintenance	X				P	S					

MO7 PARKING LOTS MAINTENANCE

DESCRIPTION

The Parking Lots Maintenance Control Measure keeps the City's parking lots clear of debris and prevents excessive oil buildup. The Control Measure establishes a schedule of cleaning and inspecting the parking lots.

EXISTING BMPS AND RELATED ACTIVITIES

The City maintains several parking lots. Parking lots will be swept to control litter as part of the street sweeping effort. Each parking lot will be monitored and cleaned for excessive oil build-up as needed. A draft BMP fact sheet for parking lot cleaning has been developed (see **Appendix D-7**).

PERFORMANCE STANDARDS

- Implement the BMPs on the Parking Lot BMP fact sheet
- Inspected City owned parking lots and structures, and address deficiencies in cleaning as required.
- Provide awareness training to parking facilities crew and spill kits at attended parking sites.

ASSESSMENT TASKS

- Document implementation of parking lot maintenance and inspection program.

RESPONSIBILITY

The MUD Stormwater Management Division staff will be responsible for implementation and conducting training.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO7- Parking Lots Maintenance											
Finalize and implement the BMP fact sheet for parking lot cleaning	X	X	X	X	P						
Inspect and sweep municipal parking lots	X	X	X	X	S			P			

MO8 EMERGENCY PROCEDURES

DESCRIPTION

The Emergency Procedures Control Measure outlines the response and responsibilities of the Stormwater Management Division following a natural disaster. The activities will not compromise public safety.

EXISTING BMPS AND RELATED ACTIVITIES

The City's multi-jurisdictional response is detailed in the San Joaquin Office of Emergency Services Area Response Plan. However, there is currently no specific mention of stormwater pollution prevention in the event of a natural disaster. The City also has standard operating procedures for hazardous materials response.

The Fire Department maintains a gravel covered dirt practice area. Drain plug inserts are set before practices to prevent runoff from entering the storm drain. In addition, the Fire Department uses a gas flame to simulate fires in lieu of burning an actual building or building materials.

Fire Department procedures regarding emergency and non-emergency activities will be developed as a part of the stormwater management plan. The procedures will address water quality concerns and will be consistent with the hazardous materials response procedures.

PERFORMANCE STANDARDS

- Coordinate with sanitary sewer and utilities agencies to repair essential public services and infrastructure in a manner to minimize environmental damage but do not compromise public health and safety in the event of emergency situations.
- Review and update as necessary Fire Department procedures to minimize environmental damages during emergency and non-emergency activities..

ASSESSMENT TASKS

- Document efforts to coordinate with other public services during emergency situations.
- Document completion of emergency and non-emergency Fire Department procedures.

RESPONSIBILITY

The MUD Maintenance Division staff are responsible for coordinating with public services in the event of emergency situations. The MUD Stormwater Management Division staff are responsible for training Fire Department personnel to water quality issues. The MUD Stormwater Management Division staff will work with the Fire Department personnel to identify and implement BMPs for non-fire fighting activities.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
MO8 - Emergency Procedures											
Coordinate repair of public services in the event of emergency situations			X		S	P					
Review and update as necessary Fire Department procedures			X		P	S					

Section 5

INDUSTRIAL AND COMMERCIAL BUSINESSES PROGRAM ELEMENT (IC)

5.1 OVERVIEW

The purpose of the Industrial and Commercial Businesses Program Element is to effectively prohibit unauthorized non-stormwater runoff and reduce pollutants in stormwater runoff from industrial and commercial businesses to the maximum extent practicable (MEP). The program for industrial and commercial businesses is accomplished by tracking, inspecting, and ensuring compliance at industrial and commercial businesses identified as potentially significant sources of pollutants in stormwater.

In an audit conducted by the US EPA, the City received praise for establishing a program suitable for serving as a model for other Phase I MS4 programs. Of special note in the audit results was the comprehensive inventory of applicable industries that is regularly updated. The City maintains well trained inspectors that are readily able to identify problems and identify remedies. Municipal ordinances provide the appropriate legal authority for the proper operation of the Industrial and Commercial Business Program Element. Additionally, a list of potential "non-filers" is being compiled by the City that will be delivered to the Regional Board for review and subsequent follow-up.

5.2 PERMIT REQUIREMENTS

5.2.1 State's Industrial Storm Water General Permit Requirements

The State's Industrial Storm Water General Permit, CAS#000001, Order #97-03-DWQ was issued on April 17, 1997. In general, facilities designated by the Regional Board, facilities whose operators seek coverage, and facilities required by U.S.EPA stormwater regulations are covered by the State's Industrial Storm Water General Permit. Primary requirements in the State's Industrial Storm Water General Permit include:

- Prohibition of unauthorized non-stormwater discharges. The authorized non-stormwater discharges are addressed in the Special Conditions section.
- Pollutant discharges are required to be controlled using the best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT).
- All facility operators should prepare, retain on site, and implement a stormwater pollution prevention plan (SWPPP). Development and implementation requirements for the SWPPPs are included in sections of the State's Industrial Storm Water General Permit. However, SWPPPs are developed emphasizing BMP implementation and elimination of unauthorized non-stormwater discharges.

- Implementation of a monitoring program to demonstrate compliance with the State's Industrial Storm Water General Permit. Allowances for alternative monitoring and group monitoring are provided in the State's Industrial Storm Water General Permit.

The State Water Resources Control Board Regional Board is in the process of reissuing the State's Industrial Storm Water General Permit. Upon completion of the reissuing process, permit requirements are likely to change.

5.2.2 Stockton Urbanized Area Stormwater Permit Requirements

Section D.11 of the Permit addresses the provisions specific to the industrial and commercial businesses within the City. In general, provisions D.11(a), D.11(b), and D.11(c) outline the SWMP requirements for tracking, inspecting, and ensuring compliance of the industrial and commercial businesses, respectively. Section D.11(a) outlines the requirements of an industrial and commercial business database, factors to consider in prioritizing the inventory, and reporting requirements of the prioritized inventory. The frequency and level of inspections required for industrial and commercial businesses, both for facilities that are not covered and for those that are covered by the State's Industrial Storm Water General Permit, are outlined in Section D.11(b). BMP implementation, progressive enforcement, interagency coordination, complaints investigation, and support for Regional Board enforcement are the components of Section D.11(c).

5.3 Control Measures

Four Control Measures are included in the Industrial and Commercial Businesses Program Element. Each Control Measure addresses specific provisions of the Permit, as indicated in **Table 5-1**. For each Control Measure, there are accompanying Performance Standards which, once accomplished, constitute compliance with Permit requirements. The Control Measures are presented in a logical order of progression: first the inventory is completed and prioritized, then the high priority businesses are contacted and inspected to assess BMP implementation and finally, progressive enforcement is implemented as needed. However, the actual implementation by the City will most likely be an iterative process. The businesses inventory will require updating to reflect ownership change, new businesses, and re-designation based on risk to stormwater through the inspection process.

Table 5-1: Control Measures for the Industrial and Commercial Businesses Program Element.

ID	Control Measure	Permit Provision(s) Addressed
IC1	Business Inventory	D.11.a.i-iv
IC2	Prioritization and Inspections	D.6.g, D.11.a.i, D.11.b
IC3	Industrial/Commercial Facility BMP Implementation	D.11.c.i
IC4	Progressive Enforcement and Referral Policy	D.6.a, D.6.e, D.7, D.11.c.ii-iii

5.4 Supporting Control Measures

The MUD Stormwater Management Division's database tracks information for the IC Program Element as well as for the Planning and Land Development Program Element (Section 7) and Construction Program Element (Section 6). Maintenance of the database requires coordination between each of these programs. Consistent tracking of selected post-construction BMPs selected from the planning process through construction is important for industrial stormwater inspectors to be able to easily identify which controls have been implemented at each facility and which ones need to be inspected.

The Public Outreach and Education Program Element (Section 3) disseminates stormwater quality information to increase awareness of stormwater quality concerns, thus reducing potential discharges from industrial and commercial businesses. The City will continue to develop and distribute BMP brochures targeting specific businesses.

5.5 Control Measure Factsheets

IC1 BUSINESS INVENTORY

DESCRIPTION

Implementing the Business Inventory Control Measure will ensure that the City develops and maintains a complete database of businesses that have the potential to impact stormwater or receiving water quality. Information for the database is gathered from new business licenses and sanitary sewer hook-up permits. The database inventory provides the basis for prioritization of businesses within the City. Furthermore, the database will serve as a repository for all outreach, inspection, and notices for each facility.

EXISTING BMPS AND RELATED ACTIVITIES

The City maintains an inventory database of commercial and industrial businesses, including those covered under the State's Industrial Storm Water General Permit (see **Appendix E-1**). The inventory is comprehensive of applicable industries within the City's jurisdiction. A complete list of entries in the current database includes:

- Name and address of company
- Mailing address of company
- Name and address of owner or operator
- SIC code and SIC description
- Waste ID Number
- Due date for next inspection
- Date of most current site visit
- Date (if) a Condition of Acceptance (COA) was granted to facility (City Permit system has been discontinued).
- Date of most recent Annual Report
- Check boxes for indicating a SWPPP and if there is risk of exposure
- Box to indicate whether business is commercial or industrial
- Additional comments

Scheduling of inspections is an integrated component of the City's database. Queries to the database yield the facilities scheduled for inspection, sites overdue inspections, and sites requiring re-inspection.

PERFORMANCE STANDARDS

- Continue to update commercial and industrial businesses inventory. The businesses included within the database for further evaluation will include:
  - Facilities covered by the State's Industrial Storm Water General Permit.
  - Other businesses with potentially significant sources of stormwater pollutants:
    - Auto body shops
    - Nurseries
    - Kennels
    - Restaurants and caterers
    - Equipment rentals
    - Auto dealers
    - Auto repair shops
    - Dry cleaners
    - Retail gasoline outlets (RGOs)
  - Temporary or intermittent potential sources:
    - Automotive washing and detailing
    - Carpet cleaners
    - Commercial pesticide applicators
    - Concrete pouring contractors
    - Concrete cutting contractors
    - General building contractors
    - Handyman service providers
    - Paint contractors
    - Portable toilet rental and maintenance
    - Pressure washers
    - Roof contractors
    - Street sweepers
    - Swimming pool contractors
    - Swimming pool maintenance
    - Landscape installation/maintenance contractors
    - Janitorial service providers
  - Facilities with a history of illicit discharges or other stormwater related infractions of the City's ordinances.

ASSESSMENT TASKS

- Perform an internal audit of the database every other year to verify that information was properly entered and reported.
- Compile the updated inventory for inclusion in the Annual Report.

RESPONSIBILITY

The MUD Stormwater Management Division staff are responsible for all aspects of the industrial and commercial business database including: transferring the industrial and commercial business inventory into the City's database, specifying and ensuring modifications are performed, and periodically updating the database.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
IC1 - Business Inventory											
Perform internal audit on database		X		X	P						
Continue to update inventory	X	X	X	X	P						

IC2 PRIORITIZATION AND INSPECTIONS

DESCRIPTION

The Prioritization and Inspections Control Measure establishes a procedure for prioritizing businesses within the City for inspection as well as the inspection requirements associated with the site visits. For businesses identified as potentially significant sources of stormwater pollutants, inspections ensure the facility operator has pertinent educational materials, the operator complies with the City ordinances, unauthorized non-stormwater discharges do not occur, and illicit connections are not evident. Inspection of facilities covered under the State's Industrial Storm Water General Permit are performed to ensure the operator has a current Waste Discharge Identification (WDID) number, the Stormwater Pollution Prevention Plan (SWPPP) is available on site, and the operator is effectively implementing BMPs in compliance with City ordinances. A WDID number is required for any industry covered by the State's Industrial Storm Water General Permit discharging stormwater associated with the industrial activity.

EXISTING BMPS AND RELATED ACTIVITIES

Current City ordinance allows authorized officers to enter any property or building to perform inspections. On refusal to allow inspection by the owner, tenant, occupant, agent or other responsible party, the City may seek an Administrative search warrant.

The City previously followed a three-tier prioritization process for Priority Industrial Facilities (PIFs).

In the course of developing the SWMP, the City developed new draft procedures for prioritizing industrial and commercial businesses for inspection frequency (see **Appendix E-2**). As modified the City will consider all industries and businesses specifically listed in the Permit (e.g. State Industrial General Permit holders, auto body shops, etc.) as high priority sites and inspect each twice in the five year Permit cycle. All other businesses are considered low priority and inspected as needed. If the City encounters a business that may pose a threat to water quality the City will evaluate the business using the evaluation criteria and ranking system described in **Appendix E-2**.

City industrial inspectors receive proper training to adequately assess facilities and offer assistance in suggesting remedies. City ordinances and City Attorney's Office provide the proper legal backing for inspections and any necessary enforcement.

In order to ensure that the MUD inspectors conduct thorough and consistent inspections, a checklist was developed (**Appendix E-3)**. Five categories are tabulated in the checklist. The categories of inspection include: administrative evaluation, indoor inspection, outdoor inspection, inspection of specific areas of concern, and other areas of concern.

Some specific points on the checklist include:

- The potential for discharge of pollutants in stormwater is reduced to the MEP; sources to be inspected may include industrial processes; equipment and vehicle maintenance and storage; equipment, vehicle, and surface washing; raw material and product handling and storage; solid waste handling and storage; and hazardous waste handling and storage;
- Unauthorized non-stormwater discharges do not occur at the facility;
- Illicit connections are not evident; and
- For industries covered by the State's Industrial Storm Water General Permit, also confirm that:
  - Each operator has a current Waste Discharge Identification (WDID) number for facilities discharging stormwater associated with industrial activity;
  - A Storm Water Pollution Prevention Plan (SWPPP) is available on site; and
  - The operator is effectively implementing BMPs in compliance with local ordinances.

PERFORMANCE STANDARDS

- Continue to identify and prioritize industries and commercial businesses within the City using the finalized version of the draft prioritization procedures. Businesses designated "high priority" will include, at a minimum, those listed in Control Measure IC1 as "potentially significant sources of stormwater pollutants". Factors considered include:
  - Significance as a potential target pollutant source;
  - Potential for or known history of non-stormwater discharges;
  - Already inspected by agency inspectors for compliance with HazMat, pretreatment, or other regulations;
  - Coverage under the State's Industrial Storm Water General Permit (automatically);
  - Use or sale of hazardous materials; and
  - Generation of hazardous wastes.
- Update the inspection checklist for high priority businesses to include, at a minimum:
  - The facility operator has received educational materials on stormwater pollution prevention practices and regulations;
- Inspect high priority industries and commercial businesses twice during the Permit term. The first inspection should occur prior to July 2005. If the inspections reveal that there is no significant risk at a facility, the facility may be dropped from the high priority list. At least one year will elapse before the second inspection.
- Develop business specific checklist. The industrial facility checklist should be used as a model, with modifications appropriate to non-industrial facilities.

ASSESSMENT TASKS

- Maintain list of the high priority industries and commercial businesses and provide in the Annual Report.
- Record updated inspection checklist.
- Annually compile a list of businesses inspected and inspection results for the Annual Report.

RESPONSIBILITY

The MUD Stormwater Management Division staff are primarily responsible for prioritizing the industries and commercial businesses for inspection and updating the inspection checklist. Primary responsibility for inspecting high priority industries and commercial businesses lies with the MUD Stormwater Management Division. MUD Stormwater Management Division staff are primarily responsible for keeping the inspector training program current. The MUD Stormwater Management Division staff are responsible for inviting County restaurant inspectors to training sessions.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
IC2 - Prioritization and Inspections											
Prioritize businesses as necessary for inspection	X				P						
Update inspection checklists	X				P						
Inspect high priority industries and commercial businesses	X	X	X	X	P	S					
Develop business specific checklist	X				P						

IC3 INDUSTRIAL/COMMERCIAL FACILITY BMP IMPLEMENTATION

DESCRIPTION

The BMP Implementation Control Measure requires commercial/industrial dischargers to control pollutants in stormwater discharges to the maximum extent practicable (MEP), and effectively prohibit unauthorized non-stormwater discharges to the storm drain system. Although the City may provide guidance on BMP selection, the selection of specific BMPs to be implemented is the responsibility of the discharger. The City will provide guidance for operators to select the most appropriate BMPs for specific businesses.

EXISTING BMPS AND RELATED ACTIVITIES

The City has developed and maintains a manual that includes a Model Stormwater Pollution Prevention Plan (SWPPP) for Industrial Activities. The manual is designed to guide the development of a complete SWPPP. Examples are used throughout the manual. An electronic pdf version is available for download from the City's website from: http://www.stocktongov.com/MUD/stormwater/FSWPPP.pdf.

Pollution Prevention (P2) information is maintained on the City's website. Tips for in and around the home, garden, boating, paints and solvents, landscaping and pools, and P2 practices for business are included on the site. Vehicle care and maintenance P2 tips include methods for maintaining work sites, spill clean-up, fluid spill and leak prevention, and proper washing and fueling techniques. Concrete applications P2 information includes preparing and setting under appropriate weather conditions, proper construction methods, and cleaning and disposal methods. Food service industry P2 includes minimization of wastes, maintaining a clean work area, composting and recycling of materials, and proper disposal as necessary. Heavy equipment and earth moving P2 include vehicle maintenance and clean-up procedures, and erosion minimization techniques. Roadwork and paving P2 include pointers for construction, general business practices, and proper asphalt and concrete removal. The link to the webpage containing the information is as follows: http://www.stocktongov.com/MUD/stormwater/prevention.htm

PERFORMANCE STANDARDS

- Develop BMP brochures for industrial and commercial businesses determined to be high priority businesses identified in IC2. Advise businesses of additional resources for BMP selection and implementation including CASQA California BMP Handbooks.
- Include appropriate BMP brochure(s) during first inspections.

ASSESSMENT TASKS

- Document distribution of BMP brochures.

RESPONSIBILITY

The MUD Stormwater Management Division staff are primarily responsible for developing BMP brochures. MUD Stormwater Management Division staff are responsible for ensuring that the

other Department and Division staff receive brochures for distribution. MUD Stormwater Management Division staff will also develop and host the industrial workshops.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
IC3 - Industrial and Commercial BMP Implementation											
Develop BMP brochures for high priority businesses	X	X			P						
Distribute BMP brochures	X	X	X	X	P	S	S	S	S	S	

IC4 PROGRESSIVE ENFORCEMENT AND REFERRAL POLICY

DESCRIPTION

The Progressive Enforcement and Referral Policy Control Measure sets policy for handling industrial and commercial businesses that are out of compliance with local ordinances. The Control Measure outlines the process for the progressive levels of enforcement applied to facility operators not complying with City ordinances. The Control Measure also establishes the protocol for referring apparent violations of facilities subject to the State's Industrial Storm Water General Permit to the Regional Board. The Progressive Enforcement and Referral Policy has been developed to address specific legal authority issues related to industrial and commercial facility discharges to storm drains and should be implemented in coordination with the City's efforts to maintain adequate legal authority for the Stormwater Program in general.

EXISTING BMPS AND RELATED ACTIVITIES

Current City ordinances provide legal authority for conducting stormwater related inspections and related abatement.

Inspections are performed to assess compliance with City stormwater ordinances. Noncompliance may include, non-submittal by an industry of a NOI or SWPPP, failure to implement BMPs or other violation of City ordinances.

The City has developed and will be implementing a progressive enforcement policy described in **Appendix B-3**. Enforcement action will match the severity of violation and, in general, the progressive steps are:

- Verbal warning
- Field Notices of Non-compliance (Notice of Violation and Notice to Clean)
- Administrative Compliance Order (First Notice of Violation)
- Cease and Desist Order (Second Notice of Violation)
- Legal Action.

Currently the City's database of industries and commercial businesses contains a comment box for notes pertaining to a specific facility. Typically, if there is an unsatisfactory inspection, special note is made in the comment box, and the facility is marked for reinspection. Past experience with facilities in the Stockton area have been that facility operators are cooperative and are willing to bring facilities into compliance. However, the current tracking method should be modified to allow for better tracking of enforcement actions..

PERFORMANCE STANDARDS

- Implement a policy for progressive enforcement and referral system consistent with **Appendix B-3**.
- Discuss industrial/commercial database functionality with inspection staff and modify as necessary to streamline tracking of enforcement action(s).

- Develop mechanism for responding to complaints (other than non-stormwater discharges) lodged against industrial and commercial businesses by the Regional Board to insure inspections occur within two business days. Inspections initiated in response to complaints will determine, at a minimum, if the facility is out of compliance with City stormwater ordinances.
- Review and modify, as necessary, the procedures for informing the Regional Board of violations at industries covered by the State's Industrial Storm Water General Permit. Referral to the Regional Board is appropriate concurrently (within 30 days) with issuance of Notice of Violations. The referral to the Regional Board should include:
  - Name of facility
  - Operator of facility
  - Owner of facility
  - Industrial activity or activities subject to the State's Industrial Storm Water General Permit conducted at the facility
  - Records of communication between the City and facility owner and operator.

ASSESSMENT TASKS

- Summarize businesses inspected and any enforcement actions taken.

RESPONSIBILITY

The MUD Stormwater Management Division staff are responsible for developing the progressive enforcement and referral policy and the City Attorney is responsible for ensuring the ordinances give the proper legal authority to implement the policy. Development of the policy for referring non-complying industries to the Regional Board is the responsibility of the Stormwater Management staff. The development of the procedures regarding inspection of Regional Board referred industrial sites is the responsibility of the MUD Stormwater Management Division staff.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
IC4 - Progressive Enforcement and Referral Policy											
Implement progressive enforcement and referral policy	X	X	X	X	P						S
Modify database for better tracking of enforcement actions	X				P						
Develop procedures for responding to Regional Board complaint	X				P	S					
Review of industrial referral procedures to RWQCB	X				P						

Section 6
CONSTRUCTION PROGRAM ELEMENT (CO)

6.1 OVERVIEW

The purpose of the Construction Program Element is to reduce pollutants from construction sites during all construction phases. This is accomplished through:

- Providing adequate legal authority to control pollutants from construction sites with land disturbance of one acre or more;
- Reviewing construction plans and issuing grading permits consistent with City requirements;
- Maintaining a tracking system (inventory) of active construction sites;
- Requiring BMPs to control sediment and pollutants from construction sites;
- Inspecting construction sites to ensure proper implementation of BMPs and compliance with City requirements;
- Bringing forth enforcement actions for sites in violation of City requirements and advising Regional Board of apparent violations of General Permit for Discharges of Storm Water Associated with Construction Activity (hereafter "Construction General Permit") requirements; and
- Providing regular training to City construction staff (described in Section 10) and contractors on applicable components of the Stormwater Program and the Construction General Permit.

6.2 PERMIT REQUIREMENTS

6.2.1 Construction General Permit Requirements

The Construction General Permit, CAS#000002, Order #99-08-DWQ was adopted by the State Water Resources Control Board on August 19, 1999. The SWRCB Resolution No. 2001-046 amended the permit on April 26, 2001. The general permit requires all dischargers where construction activity disturbs one acre or more (or is part of a larger common plan of development that will disturb one acre or more) to:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) that specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters.
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation.
- Perform inspections of all BMPs.

The landowner responsible for obtaining coverage under the Construction General Permit prior to commencement of construction activities. To obtain coverage, the landowner must file a Notice of Intent (NOI) with a vicinity map and fee payment with the SWRCB.

6.2.2 Stockton Urbanized Area Stormwater Permit Requirements

According to Permit Provision D.10 the City is required to update and continue to implement the Construction Program Element to reduce pollutants in runoff from construction sites during all construction phases. The Permit focuses on the development and implementation of the following components:

- Pollution Prevention
- Grading and Erosion Control Ordinance Modification
- Construction and Grading Approval Process
- Source Identification
- Threat to Water Quality Prioritization
- BMP Implementation
- Construction Site Inspections
- Enforcement Measures for Construction Sites
- Reporting of Non-compliant Sites
- Education Focused on Construction Activities.

6.3 CONTROL MEASURES

The Control Measures outlined below in **Table 6-1**, and discussed in the accompanying factsheets, were designed to cover the construction-related requirements in the Permit. For each Control Measure, there are accompanying performance standards which, once accomplished, constitute compliance with Permit requirements. The Control Measures in this Section are presented in a logical order of progression. Municipal code will be enhanced to provide legal authority to enforce these program requirements. Stormwater Program staff will become an integral part of the plan review and approval process. Submitted plans will be input into a database to inventory and track progress of all construction projects. After approval, inspectors will visit active construction sites to track progress and enforce municipal code, as necessary.

Table 6-1: Control Measures for the Construction Program Element.

ID	Control Measure	Permit Provision(s) Addressed
CO1	Municipal Code for Construction Projects	6.a, 10.a.ii, 10.b.i-iv
CO2	Plan Review and Approval Process	10.a.iii, 10.b.v
CO3	Construction Projects Inventory	10.a.iv&vi, 10.b.vi
CO4	Construction BMPs Implementation	10.a.x, 10.b.i-iv
CO5	Construction Site Inspections	6.g, 10.a.iv-v&vii, 10.b.vi
CO6	Progressive Enforcement and Referral Policy	6.e, 7, 10.a.viii-ix, 10.c

6.4 Supporting Control Measures

The Public Outreach and Education Program Element (Section 3) helps educate the building community through holding workshops, distributing construction brochures, and promoting the Guidance Manual for New Development Stormwater Quality Control Measures and CASQA BMP Handbooks. Changes made in City policies and planning strategies promoted in the Planning and Land Development Program Element (Section 7) help ensure that stormwater quality and watershed principles are integrated into the development process and building plans. The Training Program (Section 10) supports the implementation of the Control Measures identified in the construction program.

6.5 Control Measure Factsheets

CO1 MUNICIPAL CODE FOR CONSTRUCTION PROJECTS

DESCRIPTION

The goal of this Control Measure is to ensure that the City has adequate legal authority to control pollutants from construction sites with land disturbance of greater than or equal to one acre. This authority is typically provided through the adoption of an ordinance (and resulting codification in the City's Municipal Code) and erosion and sediment control standards. This Control Measure addresses specific legal authority issues related to construction activities and should be implemented in coordination with Section 1.5.

EXISTING BMPS AND RELATED ACTIVITIES

The City adopted a Grading and Erosion Control Ordinance effective July 1, 1997[1]. Pursuant to this ordinance, construction activities (with some exclusions, such as mining and agriculture) disturbing more than 50 cubic yards of material and clearing and grubbing more than 0.5 acres are required to obtain a Grading and Erosion Control Permit. The ordinance establishes requirements for:

- Providing a copy of the local Stormwater Pollution Prevention Plan (SWPPP) and proof that a Notice of Intent (NOI) has been filed.
- Clearing and grubbing, grading, filling and excavation of land to minimize damage to surrounding property, public right of way, and degradation of water quality;
- Controlling the discharge of sediments and pollutant runoff from construction related activities to municipal separate storm drains; and
- Reducing pollutants in stormwater discharges to the maximum extent practicable.

The Ordinance also provides authority to City inspectors to inspect construction sites and their BMPs throughout the life of the project. Inspectors may photograph any conditions thought to constitute a violation of applicable laws.

The City updates its Standard Specifications periodically as required for changing regulations and to address ongoing construction concerns. During the 1997 update, Section 101 (Stormwater Quality) was added. This section contains both specifications and plans for incorporation into applicable projects within the City.

[1] This ordinance can be viewed on-line at http://www.stocktongov.com/SMC/Chapter13/Ch13_PartV_Div01.htm.

PERFORMANCE STANDARDS

- Review and modify, as necessary, the City's Grading and Erosion Control Ordinance to ensure that there is adequate legal authority to implement the Erosion and Sediment Control Standards (see Control Measure CO4). Specifically ensure that:
  - Construction activities disturbing one acre or more (or part of a common development that will disturb one acre or more) comply with the State's Construction General Permit.
  - Erosion is minimized or, where occurring, sediment is retained using adequate source and treatment control BMPs. Such BMPs may include:
    - Minimizing clearing and grading using phased construction,
    - Inspecting graded areas during rain events,
    - Immediately covering or otherwise stabilizing exposed soils, and
    - Constructing sediment basins, silt fences, etc.
  - Construction-related materials, wastes, etc. are retained at the project site.
  - Non-stormwater runoff from equipment and vehicle washing is contained on the project site.
  - Provide inspectors with adequate legal authority to enforce all requirements of the progressive enforcement policy including a provision to issue a stop work order.

ASSESSMENT TASKS

- Track and record the approval of the revised Grading and Erosion Control Ordinance.

RESPONSIBILITY

The MUD Stormwater Management Division will be responsible, with assistance from the City Attorney, for modifying relevant ordinances.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO1 – Municipal Code for Construction Sites											
Review and modify, as necessary, Grading and Erosion Control Ordinance	X				P						S

CO2 PLAN REVIEW AND APPROVAL PROCESS

DESCRIPTION

Effective planning of construction site activities leads to minimizing erosion and preventing pollutants from entering the storm drain system. The City requires projects that disturb greater than one acre of land to address pollutants and activities during the construction phase of the project. Prior to issuing a grading permit, the City reviews construction drawings to ensure that erosion and sediment control BMPs and source and treatment control BMPs are identified.

EXISTING BMPS AND RELATED ACTIVITIES

The City's Grading and Erosion Control Ordinance (see Control Measure CO1) requires the submittal with grading plans of proof that a Notice of Intent has been filed and that a SWPPP has been developed. A two-page handout is provided to applicants to explain the review procedure. Site plans, improvement plans, and building plans are submitted to the City's Permit Center for review. As part of this review, the MUD Stormwater Management Division representative in the Permit Center reviews grading and building permit applications to determine if a SWPPP is required.

The City has developed a Model SWPPP for Construction Activities that is available to project developers (from the City's web site). The Model SWPPP contains a checklist of information required and blank forms for the construction operator to complete. The Model SWPPP also lists standard control practices and BMPs from which construction operators may choose. The Model SWPPP does not address many mandatory elements of the State General Permit, including in particular Section B, Monitoring Program and Reporting Requirements, and Section C, Standard Provisions.

The Stormwater Construction Inspector reviews erosion control plans along with project plans to verify that: an NOI has been submitted to the State Board, the name and contact information for the person responsible for implementing the SWPPP are provided, and the location and details for all construction activity BMPs are listed. No permit is issued until the stormwater requirements are satisfied.

PERFORMANCE STANDARDS

- Continue to review grading and building permit applications to determine if SWPPPs are needed.
- Update the permit review procedure handout to include:
  - Means of obtaining the model local SWPPP.
  - Summary of the revised stormwater inspection checklist (see Control Measure CO5).
- Continue to check for the following requirements prior to issuing a grading permit:
  - Certification that a Notice of Intent to comply with the General Construction Permit has been submitted to the State Board (if applicable);
  - A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;

- o A site map showing the construction project in detail, including the existing and planned paved areas and buildings; general topography both before and after construction; drainage patterns across the project area; and anticipated stormwater discharge locations (i.e., the receiving water, a conduit to receiving water, and/or drain inlets);
- o An erosion control plan describing the type and location of erosion and sediment control BMPs to be employed at the site; and
- o The name and telephone number of the qualified person responsible for implementing the SWPPP.

ASSESSMENT TASKS

- Certify that the plan review process addresses the requirements of the Permit (i.e. filing of NOI and submittal of erosion control plans).
- Document grading plans reviewed by the MUD Stormwater Management Division.

RESPONSIBILITY

The MUD Stormwater Management Division is responsible for reviewing grading permit applications and erosion control plans, and will update the permit review procedure handout. The Building Division of the Community Development Department facilitates the plan review process.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO2 – Plan Review and Approval Process											
Continue to review grading and building permit applications for SWPPP requirements	X	X	X	X	P						
Update the permit review procedure handout	X				P						
Continue to review erosion control plans	X	X	X	X	P						

CO3 CONSTRUCTION PROJECTS INVENTORY

DESCRIPTION

The tracking of construction sites, from the planning stage to completion is essential for ensuring that stormwater pollutants are reduced to the maximum extent practicable. Maintaining a database to track all stages of the construction process is the foundation of construction-related source identification and helps to ensure that pollution prevention and source control are emphasized during all phases of the construction project.

EXISTING BMPS AND RELATED ACTIVITIES

The MUD Stormwater Management Division maintains a database system that is capable of tracking SWPPPs reviewed and inspections that occur at each construction site. The current database fields include:

- Site owner and contact information
- Name, address, and description (type) of project
- WDID and SWPPP numbers
- Inspector and inspection date
- Comments on site conditions
- Notices of Violation and other letters sent.

PERFORMANCE STANDARDS

- Continue to maintain the construction project database and provide annual summaries.

ASSESSMENT TASKS

- Conduct an audit once every two years to verify the accuracy of the tracking system.

RESPONSIBILITY

The MUD Stormwater Management Division is responsible for maintaining and revising the database tracking system for construction sites.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO3 – Construction Projects Inventory											
Maintain construction project database	X	X	X	X	P		S				

CO4 CONSTRUCTION BMP IMPLEMENTATION

DESCRIPTION

The implementation of construction site BMPs is accomplished through the combined approach of educating contractors about sources of stormwater pollutants and the needs and requirements to implement BMPs for different construction-related activities, reviewing grading and erosion control plans and building plans to ensure that stormwater controls have been adequately considered, and ensuring through inspection and enforcement that contractors have a construction site SWPPP and are implementing identified BMPs. This Control Measure focuses on the City's requirements for BMPs at construction sites and the education aspects.

EXISTING BMPS AND RELATED ACTIVITIES

As noted in CO1, the City updates its Standard Specifications periodically as required for changing regulations and to address ongoing construction concerns. During the 1997 update, Section 101 (Stormwater Quality) was added. This section contains both specifications and plans for incorporation into applicable projects within the City.

As noted in CO2, all construction project applicants identified as having to comply with the Grading and Erosion Control Ordinance are provided a two-page handout describing the application review procedure. The City also provides a Model SWPPP that includes a list of BMPs applicable to construction activities.

The City conducts education and training for construction activities through informational brochures, the City's website and through one-on-one discussions during site inspections by MUD Stormwater Management Division staff. Experience has shown that the best environment to educate contractors is in the field where issues, BMP implementation and regulatory requirements can be discussed in a real-world situation.

PERFORMANCE STANDARDS

- Revise, as necessary, the Stormwater Quality Standards and Specifications to reflect the new Construction General Permit (CAS000002):
  - Update Erosion and Sediment Control BMPs.
  - Consider modifying the standards and specifications to include reference to CASQA's new Construction BMP Handbook and Caltrans' standards for construction activities for selecting or comparing BMPs.
  - Cross-reference the Stormwater Quality Standards in the City's Grading and Erosion Control Ordinance.
- Conduct tailgate sessions every other year for contractors. Review:
  - The Construction General Permit; and
  - City requirements for construction sites, including BMPs.

ASSESSMENT TASKS

- Document modification to City standards and specifications that reflect Construction General Permit requirements.
- Record contractor tailgate meetings including date, attendees, and BMPs discussed.

RESPONSIBILITY

The MUD Stormwater Management Division will take the lead in modifying the Stormwater Quality Standards and Specifications for construction activities with assistance from the Public Works Department. The MUD Stormwater Management Division will facilitate the tailgate meetings.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO4 – Construction BMPs Implementation											
Revise City Standards and Specifications	X				P				S		
Conduct contractor tailgate meetings		X		X	P						

CO5 CONSTRUCTION SITE INSPECTIONS

DESCRIPTION

Inspections are critical to the ultimate success of the Construction Program Element. An effective construction inspection program requires having adequate legal authority to enforce City requirements, tracking active construction sites to identify repeat violators, and conducting inspections to ensure BMPs are being implemented. Building and engineering inspectors should also be aware of stormwater quality issues and be capable of notifying the MUD Stormwater Management Division if any violations are noticed.

EXISTING BMPS AND RELATED ACTIVITIES

City inspectors refer to SWPPPs and improvement/building plans to insure that appropriate stormwater BMPs are being put into place and maintained. For a typical project, two departments are involved in providing inspection services:

- Building Division of the Community Development Department provides inspections as part of the building permit requirements.
- The MUD Stormwater Management Division's inspector provides overall coordination for construction site inspections for all projects and acts as a second check of the other two departments.

The Public Works Department provides, upon notification of potential problems, secondary inspections for infrastructure improvements and improvements located within the City right-of-way.

In addition to inter-departmental coordination and reporting, the City maintains a 24-hour hotline (209-937-8341) as an avenue for public reporting of problems at construction sites. All reports are recorded and responded to, as appropriate.

The MUD Stormwater Management Division's inspector also spends time in the Permits Center, reviewing permit applications to ensure that they are complete and address the stormwater permit requirements (see Control Measure CO2).

The MUD Stormwater Management Division's current inspection checklist includes items suggested by the Regional Board, plus an area for general comments. The inspector verifies during the first field visit that SWPPPs are on-site and being implemented. BMP implementation is assessed at each site. Current practice includes, if any problems are identified, a comparison of on-site conditions with SWPPPs or grading plans.

All construction sites above the one-acre minimum are inspected once per month at a minimum. Additional inspections are conducted as time allows or as follow-up where problems were noted in previous inspections.

The MUD Stormwater Management Division maintains a database for tracking stormwater construction inspections (see Control Measure CO3).

PERFORMANCE STANDARDS

- Improve and update the stormwater construction site inspection form:
  - Provide greater consistency with requirements in the Model SWPPP for Construction Activities.
  - Include checks for BMPs:
    - BMPs are implemented as planned in SWPPPs and functioning effectively.
    - Other pollution prevention BMPs implemented or needed.
  - Check for any non-stormwater runoff.
  - Note enforcement action taken per progressive enforcement policy (see Control Measure CO6).
- Continue to inspect construction sites greater than one acre once per month throughout the year (wet and dry season) for compliance with the City's Grading and Erosion Control Ordinance and applicable standards.

ASSESSMENT TASKS

- Track and document total number of violations and enforcement actions that occur at each active construction site.
- Complete an annual summary table showing the information below. (Projects that have been completed but the permits have not been closed do not need to be reported.)

Type of Activity	Number
Projects requiring SWPPPs	
Regular inspections by MUD Stormwater Management Division's inspector	
Projects of size greater than or equal to 1 acre	
Follow-up inspections due to violations	

RESPONSIBILITY

The MUD Stormwater Management Division conducts all stormwater construction site inspections for all projects and will update the stormwater construction site inspection checklist.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO5 – Construction Site Inspections											
Improve inspection form	X				P						
Inspect construction sites > 1 acre monthly	X	X	X		P		S		S		

CO6 PROGRESSIVE ENFORCEMENT AND REFERRAL POLICY

DESCRIPTION

A progressive enforcement policy, and accompanying legal authority to execute it, is an important tool for providing a fair and equitable approach to bringing contractors and developers into compliance with the City's municipal code requirements. Enforcement actions should range from issuance of verbal warnings, Notices of Violations (NOVs), administrative citations, to stop work orders. For repeat offenders or contractors that have not filed appropriate applications, the referral policy includes notifying the Regional Board.

EXISTING BMPS AND RELATED ACTIVITIES

City inspectors currently have the legal authority, under the Storm Water Management and Discharge Control Ordinance, to issue administrative complaints (Notice of Violation, or NOV) and, if necessary, to pursue civil actions, criminal actions, and criminal penalties, including arrests and issuance of citations. The Regional Board is routinely mailed copies of NOVs. Inspectors do not have the capability of issuing a stop-work order for gross offenders or where a significant threat to water quality is observed. During the 2001/2002 reporting period, 16 field notices were issued to construction sites deemed not in compliance with stormwater requirements. In addition, eleven NOVs were issued for significant problem sites.

PERFORMANCE STANDARDS

- Develop and implement a policy that provides for a progressive enforcement process (described in detail in **Appendix B-3**). In general terms, the process consists of the following progressions in enforcement for construction sites:
  - Verbal Warning
  - Field Notice of Non-compliance
  - Administrative Compliance Order (1st Notice of Violation)
  - Stop Work Order (2nd Notice of Violation) and notification to Regional Board
  - Legal Action.

ASSESSMENT TASKS

- Track and record revised ordinance with provisions to issue a stop work order.

RESPONSIBILITY

The MUD Stormwater Management Division, in conjunction with the City Attorney, will be responsible for implementing an effective enforcement policy. The MUD Stormwater Management Division is also responsible for issuing and tracking enforcement actions.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
CO6 – Progressive Enforcement and Referral Policy											
Develop and implement a progressive enforcement policy	X	X	X	X	P						S

Section 7

PLANNING AND LAND DEVELOPMENT PROGRAM ELEMENT (LD)

7.1 OVERVIEW

The addition of impervious area for homes, industry, commercial enterprises and transportation facilities increase the amount of stormwater runoff and increases the potential for pollution. City policies, as detailed in the City's General Plan, need to be modified to include additional stormwater quality principals to effectively reduce runoff pollutants from future development to the maximum extent practicable. Likewise, the project approval process and City Standard Specifications and development standards need to reflect the effort to reduce pollutants in stormwater runoff.

Through better site planning, design practices and post-construction controls, developers and owner/builders can limit impacts of development on stormwater quality. The general strategy for development is to avoid, minimize, and mitigate (in that order) the potential adverse impacts to stormwater. Long-term stormwater impacts from development can be reduced by requiring ongoing operation and maintenance of selected post-construction treatment controls.

7.2 PERMIT REQUIREMENTS

The Permit requires the following water quality and watershed protection principles are incorporated into the City's policies and planning procedures:

- Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible to maximize on-site infiltration of runoff.
- Implement pollution prevention methods supplemented by pollutant source controls and treatment. Where practical, use strategies that control the sources of pollutants or constituents (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into MS4s.
- Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones.
- Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges.
- Use methods available to estimate increases in pollutant loads in runoff flows resulting from projected future development. Require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads.
- Identify and avoid development in areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that protects areas from erosion and sediment loss.
- Coordinate with local traffic management programs to reduce pollutants associated with vehicles and increased traffic resulting from development.

- Implement source and structural controls as necessary to protect downstream receiving water quality from increased pollutant loads and flows from new development and significant redevelopment.
- Control the post-development peak stormwater run-off discharge rates and velocities to maintain or reduce pre-development downstream erosion, and to protect stream habitat.

The Permit also requires that the CEQA review process be modified to reflect stormwater quality protection. In addition, Permit Provision D.20 requires that the City implement Development Standards to address a large range of development categories that potentially impact water quality. And finally, Permit Provision D.22 requires that the City ensure proper maintenance of post-construction treatment controls.

7.3 Control Measures

The Control Measures proposed for the Planning and Land Development Program Element are summarized in **Table 7-1** along with the pertinent sections of the Permit that the Control Measures address. For each Control Measure, there are accompanying Performance Standards which, once accomplished, constitute compliance with Permit requirements. The Control Measures are presented in a logical order of progression: first City procedures and policies will be enhanced to address all relevant Permit requirements. Based on those policies and specific Permit requirements, Development Standards will be adopted. To ensure compliance with the new policies and Standards, Stormwater Program staff will review all land development applications. Finally, maintenance agreements will be signed so that all post-construction stormwater controls are adequately maintained.

Table 7-1: Control Measures for the Planning and Land Development Program Element.

ID	Control Measure	Permit Provision(s) Addressed
LD1	Incorporation of Water Quality Protection into City Procedures and Policies	6.i, 19.a, 22, 25, 26
LD2	New Development Standards	20-21, 28
LD3	Plan Review Sign-off	9.f, 19.b, 21
LD4	Maintenance Agreement and Transfer	6.i, 22

7.4 Supporting Control Measures

Some of the outreach and education programs (Section 3) target the development community, both City staff and private developers. These activities may include facilitating tailgate sessions for planners, engineers, and contractors and making presentations to Planning Commissioners and other local officials. The Construction Program Element (Section 6) develops and maintains the database that includes tracking plan review/project approval. The Training Program (Section 10) will target reviewers and inspectors for land development projects. The City may develop a Regional Storm Water Mitigation Program, but is not proposing to do so at this time.

7.5 Control Measure Factsheets

LD1 - INCORPORATION OF WATER QUALITY PROTECTION INTO CITY PROCEDURES AND POLICIES

DESCRIPTION

Traditional land development tends to increase stormwater discharges and flow velocities. These alterations to the natural hydrologic cycle can lead to increased erosion and flooding, and decreased habitat integrity. Water quality and watershed protection principles and policies such as minimization of impervious areas, pollutant source controls, preservation of natural areas, and peak runoff controls can help to minimize the impacts of urban development.

Integration of stormwater quality and watershed principals into City policies, specifically the General Plan, serves as the basis for directing future planning and development within the City to minimize the negative impacts of urban development on the aquatic environment. In addition, the CEQA process should provide for consideration of water quality impacts and provide for appropriate mitigation measures.

EXISTING BMPS AND RELATED ACTIVITIES

The City's policies, goals, and objectives for new developments are established in the City of Stockton General Plan. These policies address how the City should direct development efforts, with consideration for social, economic, and environmental impacts. The City of Stockton adopted General Plan policies requiring stormwater quality controls on May 20, 1996. However, these policies did not specifically address the requirements noted in Section 7.2.

The City's Ordinance 010-97 serves as the enforcement mechanism to ensure new development complies with City policies and the General Plan. Specifically, Division 7 establishes uniform requirements for stormwater quality control measures in new development and redevelopment. The Stormwater Construction Inspector project plans to verify that post-construction BMPs are listed.

The CEQA review process is necessary for determining what impacts a proposed development project could have on the environment. The City's current CEQA review process includes procedures for considering potential stormwater quality impacts and providing for appropriate mitigation. The Stormwater Management Division reviews all CEQA documents, responding to checklist items under the Hydrology and Water Quality section.

PERFORMANCE STANDARDS

- Revise the following sections of the General Plan, when they are updated or amended, to incorporate watershed and water quality protection principles (as defined in Section 7.2 above): Land Use, Housing, Conservation, or Open Space.
- Provide drafts of proposed General Plan amendments to the Regional Board.
- Review and revise, if necessary, the CEQA review checklist to address stormwater quality impacts and appropriate mitigation. Specifically consider the following:
  - Potential impact of project construction on stormwater runoff;

  - Potential impact of project post-construction activity on stormwater runoff;
  - Potential for discharge of stormwater from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;
  - Potential for discharge of stormwater to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;
  - Potential for the discharge of stormwater to cause significant harm on the biological integrity of the waterways and water bodies;
  - Potential for significant changes in the flow velocity or volume of stormwater runoff that can cause environmental harm; and
  - Potential for significant increases in erosion of the project site or surrounding areas.
- Review, and if necessary, revise City ordinances to ensure adequate legal authority to implement and enforce required stormwater quality measures for development and redevelopment. Include requirements to provide verification of maintenance provisions for BMPs in the form of a legal agreement or a Conditional Use Permit.

ASSESSMENT TASKS

- Track and document efforts to amend the General Plan.
- Track and document modifications to the CEQA review documents.

RESPONSIBILITY

The Stormwater Management Division will be responsible for reviewing City policies and proposing revisions necessary to adequately address watershed and stormwater quality principles. The Community Development Department will take the lead in modifying the General Plan. The City Attorney will review policy amendments and participate in the review and revision of ordinances as necessary. The Community Development Department is also responsible for revisions to the CEQA review process. Stormwater Management Division will review revisions to ensure that stormwater quality concerns are adequately addressed.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
LD1 – Incorporation of Water Quality Protection into City Procedures and Policies											
Revise General Plan, when updated	X	X	X	X	S		P	S	S	S	
Provide drafts of proposed General Plan amendments to Regional Board	X	X	X	X	P						
Review & revise CEQA review documents		X			S		P				
Revise municipal code for enforcing standards		X			P						S

LD2 - NEW DEVELOPMENT STANDARDS

DESCRIPTION

Control measures, including source and treatment control BMPs, are necessary for development projects to mitigate potential water quality impacts. Priority projects identified in the Permit will require specific mitigation measures as set forth in Provisions D.20 thru D.22 of the Permit. The City is developing a Guidance Manual for New Development Stormwater Quality Control Measures to assist developers on meeting these requirements.

EXISTING BMPS AND RELATED ACTIVITIES

Currently the City's Development Standards do not adequately address the requirements of Permit Provisions D.20-D.22. As a result, San Joaquin County and the City initiated efforts to develop a guidance manual that meets the Permit requirements and provides standards to select, design, and maintain BMPs for new development within the Stockton Urbanized Area. The manual will address the Development Standards (stipulated in Permit Provisions D.20-D.22) and Maintenance Agreements (see Control Measure LD4). In an effort to develop a useful, representative manual, an Advisory Group was formed with representatives from the Building Industry Association, Chamber of Commerce, developer interests, environmental advocates (DeltaKeeper), and City/County staff. The group has met three times since March 2003. To date, a draft Guidance Manual has been prepared and submitted to the Advisory Group for review. The County and City intend to finalize the Guidance Manual in November 2003. An outline of the draft Manual is presented in **Appendix F-1**.

PERFORMANCE STANDARDS

- Finalize and adopt the Guidance Manual for New Development Stormwater Quality Control Measures for the siting and design of BMPs for the development community in the Stockton Urbanized Area.
- Submit the Guidance Manual to the Regional Board for review.

ASSESSMENT TASKS

- Track and record adoption of New Development Guidance Manual.

RESPONSIBILITY

The Stormwater Management Division is responsible for developing the New Development Guidance Manual. Public Works' Engineering and Parks and Recreation Divisions provide support through the stakeholder process for determining appropriate development standards.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
LD2 – New Development Standards											
Finalize and adopt the Guidance Manual for New Development Stormwater Quality Control Measures	X				P				S	S	
Submit Guidance Manual to the Regional Board for review.	X				P						

LD3 - PLAN REVIEW SIGN-OFF

DESCRIPTION

Stormwater quality controls should be considered throughout the development plan review and approval process. Comprehensive review by the City of development plans must be provided to ensure that stormwater controls were chosen properly to minimize stormwater quality impacts.

EXISTING BMPS AND RELATED ACTIVITIES

The Stormwater Quality Control Criteria Plan (SWQCCP), adopted in 1997 via Ordinance 010-97, contains stormwater quality-related performance standards, design criteria, and maintenance requirements for development projects submitted for approval to the City. All such project proposals are routed to the Municipal Utilities Department (MUD) for review to insure compliance with the SWQCCP. The Guidance Manual for New Development Stormwater Quality Control Measures (see Control Measure LD2) will replace the SWQCCP. By being part of the permit approval process, the stormwater construction inspector is aware whenever priority development projects are approved. MUD staff reviewed 155 projects during the 2001/2002 reporting period.

The Development Review Committee (DRC), which is made up of representatives from various City departments, reviews all Environmental Impact Reports, tentative maps, specific plans, etc., and makes recommendations on other proposed projects on private property. A MUD representative is on the DRC to ensure consideration of stormwater quality controls in the planning of new developments.

PERFORMANCE STANDARDS

- Develop conditions of approval for use with development plans to ensure stormwater quality requirements are addressed.
- Create and use a stormwater plan review checklist to address requirements in the Guidance Manual for New Development Stormwater Quality Control Measures (see Control Measure LD2).
- Continue MUD participation on the DRC to review development projects for consistency with stormwater management.
- Continue to review project plans and grading plans for stormwater BMPs.

ASSESSMENT TASKS

- Every two years review the notification process to ensure that Stormwater Management Division is being advised of development plans.
- Annually summarize:
  - Number and description of categorical development projects.
  - Type and number of post-construction BMPs implemented.

RESPONSIBILITY

The Community Development and Public Works Departments will jointly develop a tracking system and sign-off sheets to ensure that stormwater quality controls are properly addressed in plan development. The Stormwater Management Division will continue to review all categorical development project plans and grading plans for consistency with City standards for stormwater quality controls.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
LD3 – Plan Review Sign-off											
Develop Conditions of Approval to include stormwater controls	X				P		S				
Revise stormwater plan review checklist	X				P						
Continue MUD participation on the DRC	X	X	X	X	P						
Continue to review project plans and grading plans for stormwater BMPs	X	X	X	X	P		S				

LD4 - MAINTENANCE AGREEMENT AND TRANSFER

DESCRIPTION

To properly ensure that selected post-construction stormwater controls will remain effective upon project completion, a maintenance agreement and transfer is required to be completed for all priority development projects. An Access and Maintenance Agreement for Stormwater Treatment Devices will be developed and the Stormwater Ordinance revised to require the execution and recordation of the Agreement as a condition of approval for categorical projects. This Agreement will be required when a developer is responsible for the continued operation and maintenance of a post-construction BMP to insure that it is properly operated and maintained.

EXISTING BMPS AND RELATED ACTIVITIES

Currently, no maintenance agreement is required for development within the City's jurisdiction. City ordinances (see Control Measure LD1) will be revised, as necessary, to include provisions for maintenance agreements. The New Development Guidance Manual (see Control Measure LD2) addresses maintenance agreements as a required BMP for development plans. By providing an example agreement stipulating maintenance responsibilities and requirements.

PERFORMANCE STANDARDS

- Integrate the requirement for a stormwater maintenance agreement as a condition of approval in the project approval process. Conditions of approval would be limited to categorical projects where the developer is responsible for on-going maintenance of on-site BMPs.
- Develop a Stormwater Maintenance Agreement in accordance with Permit provisions.

ASSESSMENT TASKS

- Track and record development of the Stormwater Maintenance Agreement form.
- Annually compile a list of projects with BMP maintenance agreements in place including BMP type, location, and responsible party.

RESPONSIBILITY

The Stormwater Management Division will be responsible for developing an Access and Maintenance Agreement to be consistent with Permit provisions. The Community Development and Public Works Departments will modify the approval process to ensure that maintenance agreements are identified and recorded.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Div.	MUD Maintenance Div.	Community Devel. Dept.	Public Works Maint. Div.	Public Works Engineering Div.	Parks and Recreation Div.	City Attorney
LD4 – Maintenance Agreement and Transfer											
Integrate stormwater maintenance agreement into project approval process	X				P						S
Develop Stormwater Maintenance Agreement		X			P						

Section 8

WATER QUALITY BASED PROGRAM

8.1 OVERVIEW

The purpose of the Water Quality Based Program is to address specific pollutants that have been identified as impacting or potentially impacting local water quality. Specific pollutant plans will be developed in the coming year to address the following pollutants: pesticides (including diazinon and chloripyrifos), pathogens, and dissolved oxygen.

8.2 PERMIT REQUIREMENTS

Section D.18 of the Permit addresses the provisions specific to the water quality based programs. Provision 18.a requires the development of Pesticide Plan that addresses the co-permittees use of pesticides and the use of such pesticides by other sources within their jurisdictions. Provision 18.b requires the development of a Pathogen Plan that identifies areas of high pathogen concentrations and BMPs to address the controllable sources of pathogens. D.18.c specifies the development of a Dissolved Oxygen Plan that includes the identification of the sources that contribute to low DO concentrations in the receiving water and BMPs to control these sources. And finally, D.18.d requires the co-permittees to conduct an analysis of the Smith Canal drainage area to address dissolved oxygen problems. This later analysis is addressed in Section 9.

8.3 WATER QUALITY BASED PROGRAMS

Except for the Smith Canal analysis the pollutant specific plans are due to the Regional Board by April 1, 2004. Thus the purpose in the following sections is not to describe the plan but rather to identify the activities that will be conducted by the co-permittees as they go about preparing the specific pollutant plans.

8.3.1 Pesticide Plan

The co-permittees will develop a pesticide toxicity control plan (Pesticide Plan) consistent with Permit Provision 18.a to address pesticide impairment of urban streams. The co-permittees will complete the following tasks in preparing the Plan:

- Review relevant prior submissions to the Regional Board and existing policies and procedures for pesticide use. The co-permittees will also compile information on pesticide products and uses.

- Review co-permittees existing tracking system for pesticide inventory and use. Develop recommendations for modification of system to allow co-permittee to

quantify pesticide use by all internal departments, divisions, and other operational units as applicable to each co-permittee.

- Develop goals and actions to replace pesticides (especially diazinon) with less toxic alternatives. These may include (but are not limited to) policies, procedures, and/or ordinances requiring the use of Integrated Pest Management (IPM) techniques, minimization of pesticide use in the co-co-permittees' operations, and annual training for all municipal employees responsible for pesticide application.

- Develop strategy for public education and outreach programs to provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative methods of pest prevention and control (including IPM) that pose less of a threat to surface water quality. These programs will target residential and commercial pesticide users, pest control operators, and pesticide retailers. These programs will be developed in coordination with the County Agriculture Commission, Extension Service, environmental organizations, and other interested stakeholders. Co-permittees will meet with interested parties to review Pesticide Plan and outreach effort.

- Compile information on programs for collection and disposal of household hazardous waste and identify appropriate mechanisms for the co-permittees to support, enhance, and help publicize these programs.

- Identify pest-resistant landscaping and other design features to minimize pesticide use and off-site transport in proposed development projects. Identify mechanisms to encourage persons responsible for design and environmental review of proposed development projects to consider these features.

- Develop a preliminary assessment of the relative contribution of diazinon and chlorpyrifos from urban runoff to 303(d)-listed waters and "toxic hot spots". The assessment shall consider the sources of pesticides (including but not limited to urban runoff and atmospheric transport from sources outside of the Co-permittees' jurisdiction), methods of estimating percent contributions, and method(s) and criteria for determining whether urban runoff contributes significantly to non-attainment of water quality standards in 303(d)-listed waters or to maintenance of "toxic hot spots".

Using the information gathered above the co-permittees will prepare a draft Pathogen Plan for submittal to the Stakeholder Committee for review and comment. Once comments are received the co-permittees will prepare the final Pesticide Plan for submittal to the Regional Board.

8.3.2 Pathogen Plan

The co-permittees will develop a pathogen pollution prevention plan (Pathogens Plan) consistent with the Permit Provision 18.b. Specific tasks to be completed by the co-permittees include:

- Develop Geographic Information System (GIS) base maps and information to characterize basins and potential pathogen sources and activities, Develop a GIS-based decision support application for evaluating potential BMPs.

- Compile and summarize available water quality data relevant to pathogen issues.

- Compile and evaluate information for analytical methods for pathogen monitoring and source identification from literature and other pathogen monitoring and prevention programs.

- Develop a monitoring plan for assessing the contribution of pathogens from manmade and natural sources. Co-permittees will conduct field visits to identify monitoring sites. Monitoring plan will include sample locations and maps, frequency and extent of monitoring, sampling and sample handling procedures, analytical methods, Quality Assurance requirements and procedures, and data management and reporting requirements, When the final Pathogens Plan is approved, the monitoring program will be incorporated into the monitoring plan described in Section 9.

- Identify preliminary list of sources and/or activities that contribute to high pathogen concentrations in storm water.

- Develop initial list of BMPs to address controllable discharges of pathogens to storm drains.

- Develop preliminary list of policies, procedures, and/or ordinances required to implement the Pathogens Plan.

- Develop schedule and milestone dates for implementing Pathogen Plan. Co-permittees will also develop recommendations and/or performance standards for assessing the effectiveness of the Pathogen Plan.

- Participate in meetings with interested persons and parties addressing pathogen impaired water bodies.

Using the information gathered above the co-permittees will prepare the Pathogen Plan for submittal to the Regional Board.

8.3.3 Dissolved Oxygen Plan

The co-permittees will develop a dissolved oxygen plan (DO Plan) consistent with the Permit Provision 18.c. Specific tasks to be completed by the co-permittees include:

- Conduct a literature, data, and resource survey to identify available information related to Dissolved Oxygen in the San Joaquin River and Deep Water Ship Channel. Co-permittees will contact other agencies in the area to obtain relevant water quality monitoring data and studies.

- Upon reviewing the compiled information related to water quality and DO in the area, co-permittees will compile a list of factors contributing to the low DO in the area. Co-permittees will provide a rational for the inclusion of each contributing factor and the discussion of the relative weight of information available on each factor. The purpose will be to identify factors and assess the level at which each factor has been studied and characterized.

- Identify applicable BMPs for the entire watershed. Co-permittees staff will provide price estimates for each BMP. Price estimates are limited to capital costs of purchase, installation, and regulatory compliance.

- Upon completion of the BMP identification and evaluation process, co-permittees staff will develop a preliminary list of policies and procedures and/or ordinances that could be adopted by the City and County that could potentially reduce DO depleting sources. The policies will focus on the implementation of BMPs and or mechanisms to reduce DO depleting sources.

- Prepare a monitoring program to assess the relative contribution of urban run-off. The monitoring program will identify which contributing factors require further study and will develop a prioritization plan.

Using the information gathered above the co-permittees will prepare the DO Plan for submittal to the Regional Board.

Section 9
MONITORING PROGRAM

9.1 OVERVIEW

The Stockton Urbanized Area NPDES permit requires several monitoring studies as detailed in the Monitoring and Reporting Program (MRP). The MRP includes several studies of both urban runoff and receiving waters. The comprehensive study list includes characterization of runoff and receiving water quality and toxicity as well as the effectiveness of control measures. Monitoring is used to both assess the current health and condition of these waters, and to determine if conditions change over time. Monitoring will continue at four of the City of Stockton historical monitoring sites to evaluate urban discharge and receiving water quality. The four sites and the general monitoring will provide the backbone of the whole monitoring effort. Historic and current data may be used to evaluate the effectiveness of the Stormwater Management Program in limiting the load of pollutants of concern in runoff from the urbanized area. Several of the monitoring programs call for collecting water quality data upstream of the urbanized area to develop a baseline water quality to better estimate any incremental change in the receiving water quality due to discharges from the urban storm drains.

The Monitoring and Reporting Program has been developed to address the following objectives:

- Characterization of urban runoff
- Identifying sources of pollutants
- Assessing the chemical, physical, and biological impacts on receiving waters resulting from urban runoff
- Assessing the overall health and evaluating long-term trends in receiving water quality.
- Measuring and improving the effectiveness of the Stormwater Management Plan (SWMP)
- Assessing compliance with Order No. R5-2002-0181.

Ultimately, the results of the monitoring requirements outlined below should be used to target Public Outreach and BMP implementation to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Stockton Urbanized Area.

9.2 PERMIT MONITORING REQUIREMENTS

Pursuant to the MRP Section I.A, the Co-permittees must submit a work plan that supports the development, implementation, and effectiveness evaluation of their Stormwater Management Plans (SWMPs). The work plan is comprised of several integrated studies. Each study is designed to conform to the sampling protocol and standard monitoring provisions set forth in the MRP.

The following monitoring studies will be performed over the course of the Permit period:

- Urban Discharge Monitoring
- Receiving Water Monitoring
- Water Column Toxicity Monitoring
- Bioassessment Monitoring
- Pesticide Monitoring
- Detention basin Monitoring
- Smith Canal Water Quality Improvement Plan
- BMP Effectiveness Study

Because of the high degree of overlap of the first three studies, they are combined into one umbrella plan entitled "Discharge and Receiving Water Monitoring Plan". Individual detailed monitoring plans are included as Appendices. Overviews from each element are presented below.

Three water quality-based programs are in development as required by the MRP. Once finalized, the plans will be submitted to the Regional Board for approval on or before 1 April 2004. The water quality based programs include:

- Dissolved Oxygen Plan
- Pathogens Plan
- Pesticide Plan

The goals and objectives of these water quality plans are detailed in Section 8 of the SWMP.

9.3 Monitoring Program Overview

The monitoring program elements are designed to be complementary, and involve coordination with other agencies. Monitoring work is performed in all parts of the urbanized area with the primary locations presented in **Figure 9-1**. The monitoring program collectively characterizes the quality and quantity of urban runoff, receiving water quality, and the effectiveness of control measures (structural and programmatic). An outline of monitoring to be performed to satisfy the requirements of the MRP is presented in **Table 9-1**.

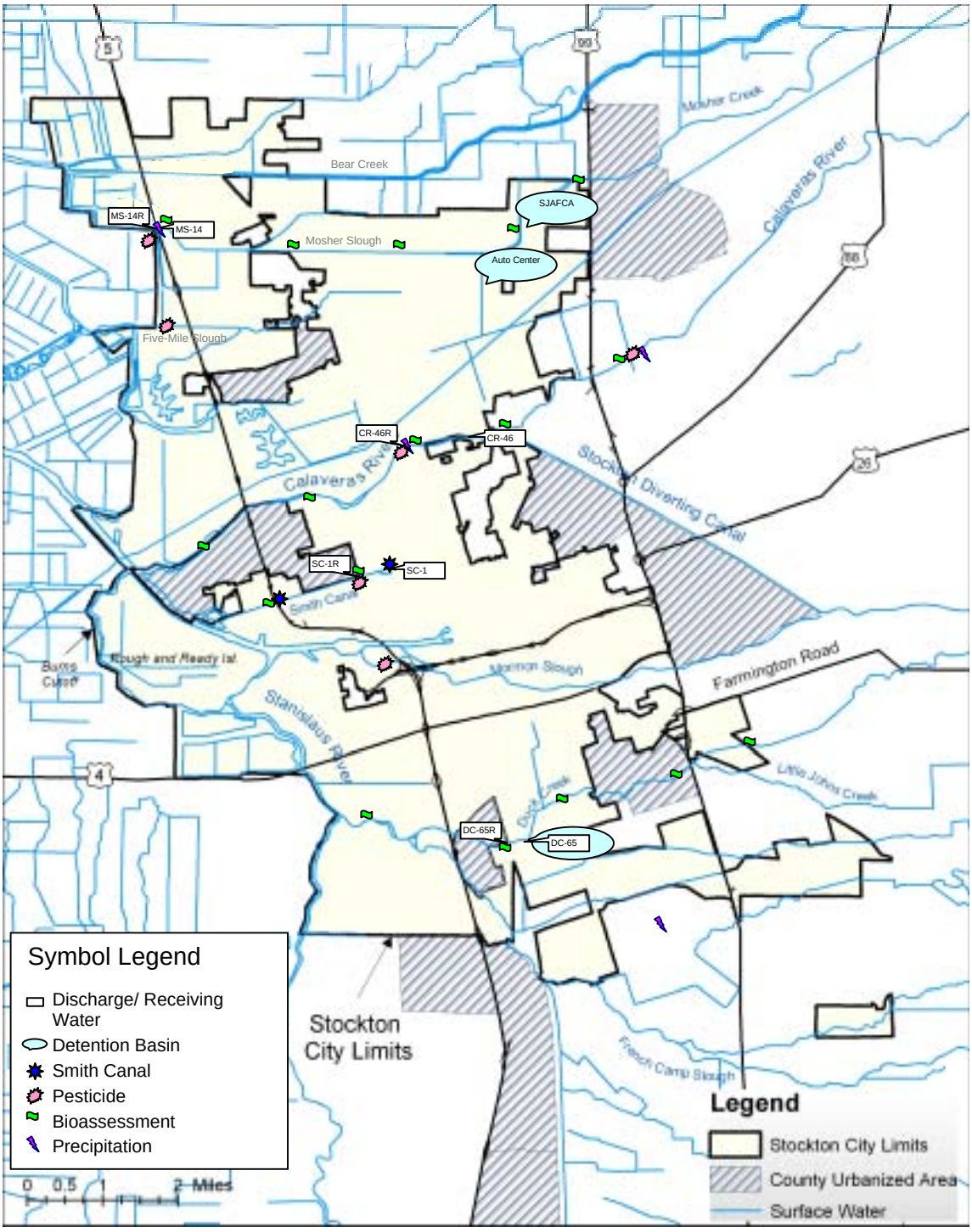


Figure 9-1: Stockton Stormwater Monitoring Locations

Table 9-1: Monitoring Schedule

Monitoring Program	2003/04				2004/05				2005/06				2006/07				2007/08			
	M[a]	L[b]	D[c]	D	M	L	D	D	M	L	D	D	M	L	D	D	M	L	D	D
Urban Discharge																				
Water Quality Parameters	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Receiving Water																				
Water Quality Parameters	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Water Column Toxicity					X[d]								X[d]							
Detention Basin																				
Water					X	X							X	X						
Sediment							X[e]								X					
Bioassessment																				
Benthic Macroinvertibrates	X[f]		X[f]		X		X		X		X		X		X		X		X	
Pesticide Monitoring																				
Water, sediment, rain	X	X	X[g]		X	X	X		X	X	X		X	X	X		X	X	X	
Smith Canal [h]																				
Water column	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Notes:
[a] Mid season storm during dormant spray
[b] Late season storm after dormant spray
[c] Dry season.
[d] To correspond to pesticide monitoring to the extent possible.
[e] Detention basin sediment sampling may occur anytime over the dry season.
[f] Bioassessement monitoring is to occur once in the Fall and once in the Spring as flow conditions allow.
[g] Pesticide dry weather monitoring should correspond to one of the dry weather discharge and receiving water sampling events.
[h] BMP Effectiveness Study monitoring is part of the Smith Canal study

9.3.1 Discharge and Receiving Water Monitoring

The Discharge and Receiving Water Monitoring Plan addresses the urban discharge, receiving water, and water column toxicity monitoring requirements listed in MRP Sections II.B, II.C, and II.D, respectively. The complete monitoring plan for the urban discharge and receiving water is included in **Appendix G-1**. Each component of the Discharge and Receiving Water Monitoring Plan is addressed below.

Urban Discharge Monitoring

Urban discharge monitoring characterizes the quantity and quality of urban runoff discharged directly to receiving waters within the Stockton urbanized area. Four discharge monitoring locations are specified in the current Permit. The monitoring locations are outfalls representative of the various land uses within the urbanized area. The NPDES Permit requires monitoring each year of the permit period at each site twice during the wet-season and twice during the dry-season.

Site Locations

Four sampling sites across the Stockton urbanized area define the discharge monitoring program. The sampling sites are located in **Figure 9-1** and listed in **Table 9-1**. As indicated in **Table 9-1**, the sampling locations represent a variety of land uses. Except for the Duck Creek site, DC-65, each monitoring site is located at a lift station discharging directly to a receiving water. The DC-65 site is an outfall discharging to a settling basin. An exhaustive list of constituents, and specialized sampling and analytical protocols are required in the current Permit and listed in **Appendix G-1**. Moving the locations to an "equivalent" location requires RWQCB approval.

Table 9-1: Representative Outfalls for the Discharge Monitoring Element.

Site ID	Land Use	Receiving Water
MS-14	Residential	Mosher Slough
CR-46	Commercial	Calaveras River
DC-65	Industrial	Duck Creek
SC-1	Mixed Land Use	Smith Creel

The Mosher Slough pump station (MS-14) is located at 9211 Kelley Drive. Access to the site requires a key. The sampler intake strainer is located in the wet well of the lift station. The Calaveras River Pump Station (CR-45) is located at 4250 North West Lane. Access to the site requires a key. The sampler intake strainer is located in the wet well of the lift station. The Duck Creek sampling site (DC-65) is located at 555 Zephyr Drive. Access to the equipment-housing requires a key. The sampler intake strainer is located inside the storm drain discharging to the Duck Creek Sedimentation Basin. The Smith Canal Pump

Station (SC-1) is located at 840 Baker Place. Access to the site requires a key. The sampler intake strainer is located in the wet well of the lift station.

Receiving Water Monitoring

Receiving water monitoring will be conducted at sites downstream from the urban discharge sites. The receiving water samples will be collected after discharges from the discharge monitoring sites have occurred. Bioassessment monitoring and pesticide studies also contain a receiving water monitoring component and are discussed in subsequent sections.

Site Locations

Four sampling sites across the Stockton urbanized area define the receiving water monitoring program. The receiving water sites are downstream of the Urban Discharge sites and are located as follows:

- Samples from Mosher Slough (MS-14R) are collected from the Mariners Drive bridge.
- Samples from the Calaveras River (CR-46R) are collected from the east side of the bridge for North El Dorado Street.
- Samples from Duck Creek (DC-65R) are collected from the east side of the bridge for South El Dorado Street.
- Samples from Smith Canal (SC-1R) are collected from the east side of the bridge for Pershing Avenue.

The receiving water, major land use in watershed, and specific location of the receiving water sampling locations are listed in **Table 9-1**.

Table 9-1: Receiving water monitoring locations downstream from representative outfalls.

Site ID	Receiving Water	Land Use	Receiving Water Site
MS-14R	Mosher Slough	Residential	Near Mariners Drive
CR-46R	Calaveras River	Commercial	El Dorado Street over-crossing
DC-65R	Duck Creek	Industrial	El Dorado Street over-crossing
SC-1R	Smith Creel	Mixed Land Use	Pershing Avenue over-crossing

Water Column Toxicity Monitoring

The toxicity monitoring component of the Monitoring Program will assess toxicity in urban runoff and, if found, determine the cause of the toxicity. Because the pesticide study also requires dormant spray period monitoring and pesticides are a known to be toxic these sampling event will be coordinated, when possible. The two storm event samples will be collected in future years to correspond with the pesticide study dormant spray period sampling (i.e. during and just after the dormant spray).

9.3.2 Bioassessment Monitoring

Bioassessment monitoring consists of quantitative biodiversity measurements of benthic macro invertebrates (BMI) and qualitative evaluation of habitat quality to allow calculation of an Index to Biological Integrity (IBI) for a waterway. The IBI for each waterway is compared to the IBI of a reference habitat to evaluate the health of the waterway. The bioassessment plan is presented in full detail in **Appendix G-2**. IBIs will be developed for waterways upstream of the Stockton Urbanized Area to serve as reference sites for the sites within the urbanized area. Goals of Bioassessment Monitoring Program include:

- Assess the biological integrity of receiving waters in the Stockton Urbanized Area
- Detect biological responses to pollution
- Identify probable causes of impairment not detected by chemical and physical water quality analysis.

The bioassessment monitoring program will be implemented through collaboration with the Surface Water Ambient Monitoring Program (SWAMP) being developed by the State Water Resources Control Board (SWRCB). SWAMP is a statewide effort to determine how to identify reference sites with the goal of IBI development. The Co-permittees understand that the SWAMP is currently in the developmental stages, and that bioassessment monitoring methods recommended by the SWAMP may be modified to potentially include Environmental Monitoring and Assessment Program (EMAP) methods and EPA Rapid Bioassessment Protocols. The Co-permittees will coordinate with the SWAMP to use the most current methods recommended for monitoring site selection and monitoring during the course of the study.

9.4 Water Quality-Based Programs

Provision 18 of the Stockton Permit requires the development of pollutant specific work plans (See Section 8 for further discussion). These plans include the Pesticide Plan, DO Plan, Pathogen Plan, and the Smith Canal Plan. For all but the Smith Canal Plan the work plans are due to the Regional Board by April 1, 2004. The Smith Canal Plan is due September 1, 2003. Within each plan is a requirement to consider the sources of the pollutant, which may require special monitoring.

In addition to the Permit requirements the MRP in Section II.F requires pesticide monitoring. In the sections that follow the pesticide monitoring and Smith Canal monitoring requirements are addressed.

9.4.1 Pesticide Monitoring Plan

The objectives of performing the tasks of the pesticide monitoring plan include:

1. Monitor trends of chlorpyrifos and diazinon in Calaveras River, Five-Mile Slough, Mormon Slough, and Mosher Slough. Monitor during: one storm event in dormant spray period, one storm following dormant spray period, and once during dry season. Monitor for one year. Discontinue monitoring if Discharge and Receiving Water Monitoring found to be representative of chlorpyrifos and diazinon in water bodies. Submit evaluation and formal request for reduction/discontinuance to Regional Board.
2. Monitor chlorpyrifos and diazinon in rainwater at sites within and outside Stockton Urbanized area,
3. As necessary, conduct monitoring upstream of residential and commercial areas to determine sources. Identify potential continuing sources of diazinon and chlorpyrifos within residential and commercial areas. Incorporate findings into Pesticide Toxicity Control Plan.

Four waterways will be monitored for chlorpyrifos and diazinon as part of the Pesticide Monitoring. A monitoring location upstream of the urbanized area will be utilized to determine the contribution of pesticides from the areas outside of the urbanized area. Because it is typically the only waterway with substantial dry weather flows, the upstream sampling location will be located on the Calaveras River. Sediment sampling is specified for two waterways to determine if historic contamination is a continuing source of pesticides. If sediment is found to be a significant source of pesticides, sediment sampling will be extended to all sampling sites. Atmospheric scouring of pesticides by rain has been shown to be a significant source of pesticides in other Central Valley areas, however measurements have not been performed for rain the Stockton area. Rain samples collected within and outside the urbanized area will allow estimation of the atmospheric contribution to the storm water runoff and ultimately the receiving waters. A list of sampling sites is presented in **Table 9-4**. As indicated in **Table 9-4**, two of the monitoring locations are existing urban discharge and receiving water monitoring locations and sampling events will coincide for the two programs. The rainfall amounts are currently recorded for the Stockton Airport.

Table 9-1: Pesticide Monitoring Program Sampling Sites.

Waterbody	Current UDM/ RWM [a] Site	Pesticide Monitoring			
		Discharge	Water	Sediment	Rain
Mosher Slough	MS-14R	X	X	X	X
Five-Mile Slough	No	X	X	X	---
Calaveras River					
Upstream	No	X	X	---[b]	X
Urban Area	CR-46R	X	X	---[b]	X
Mormon Slough	No	X	X	---[b]	---
Stockton Airport	Current Site [c]	NA	NA	NA	X

Notes: [a] UDM Urban Discharge Monitoring and RWM Receiving Water Monitoring

[b] If sediment is found to be a possibly significant source in Mosher Slough or Five-Mile Slough, sediment sampling will be extended to all waterways.

[c] Currently, the Stockton Airport site is used to quantify the amount of rainfall and does not physically correspond to a waterway.

Monitoring may be coordinated with the Regional Board and California Department of Pesticide Regulation (DPR).

9.4.2 Smith Canal Water Quality Improvement Program (Smith Canal Work Plan)

To specifically address the low dissolved oxygen (DO) problems in Smith Canal, additional monitoring and BMP effectiveness evaluation will be conducted. Both fast response acute and slow long-term chronic DO depression effects will be investigated as part of completing the work plan. Previous modeling and monitoring efforts have concluded that the greatest impacts of stormwater on the Smith Canal DO occur at the Yosemite Lake end of the canal and that measured impacts decline toward the confluence with the San Joaquin River. Previous studies have concluded that additional data collection should be performed to fill data gaps before any additional model work is warranted. The Smith Canal Work Plan included in **Appendix G-3** details the following elements:

1. Monitoring and modeling analysis required to define the sources of water quality problems within Smith Canal.
2. Identify the source and treatment control BMPs applicable to Smith Canal.
3. A program for performing treatment control feasibility studies and pilot testing future BMP implementation.
4. A program for monitoring BMP performance.
5. A program for assessing water quality trends.

Previous modeling investigations have indicated that the DO depression occurs concurrently with the increased sediment loading following storms. There has not been

sufficient data to date to determine if the high sediment loads are due to the storm drain discharges, or disturbed sediments from Yosemite Lake, or some combination of both.

To address the data gaps, continuous monitoring stations will be installed on the Yosemite Lake end of Smith Canal near the City's discharge and receiving water monitoring stations, SC-1 and SC-1R, respectively. Continuous monitoring will provide statistically treatable data for distinguishing data measurement variability caused by changes in season, tidal cycle, and BMP effectiveness.

9.5 SPECIAL STUDIES

Two special studies are called for in MRP Section III. The special studies are designed to evaluate the effectiveness of detention basins and other BMPs at removing pollutants from stormwater. Section III.A outlines requirements for a Detention Basin Monitoring Program and Section III.B lists requirements for a BMP Effectiveness Study.

9.5.1 Detention Basin Monitoring

The primary goal of the detention basin monitoring study is to evaluate the effectiveness of detention basins in removing pollutants of concern. The study will be performed at three detention basins, one in each of primarily residential, commercial, and industrial areas. Removal effectiveness will be ascertained by analyzing pollutants of concern in the basin influent in comparison to levels in the effluent and sediment. Sampling will occur during two storms of sufficient runoff to produce discharge from the detention basins during the second and fourth year of the Permit. Sediment sampling will be performed during the dry season of the sampling years. The detailed work plan is included in **Appendix G-4.**

The list of the detention basin monitoring locations is presented in **Table 9-1**. Each influent sampling location is from the storm drain upslope of an outfall discharging directly to the basin. Effluent locations are in the wet well for the pump station used to discharge the basin.

Table 9-1: Detention basin water monitoring locations. [a]

Site ID	Detention Basin	Land Use	Watershed (acres)
SJI 1,2,3	SJAFCA Influent (3 locations)	Residential	760
SJE	SJAFCA Effluent		
DC-65 DC 65I-1	Duck Creek Influent (2 locations)	Industrial	567
DCE	Duck Creek Effluent		
ACI	Auto Center Influent	Commercial	550
ACE	Auto Center Effluent		

Note: a The City will explore opportunities to consolidate the number of basins tested, and expand the frequency of sampling and/or expand the constituents tested.

SJAFCA Detention Basin

The watershed draining into the SJAFCA basin is predominately residential. Some areas within the watershed are currently under development. The basin is located at the southeast corner of the intersection of the Union Pacific Railroad and Morada Lane. Access to the basin requires a key to unlock the gate and wet well. Three storm drains discharge to the basin. Influent grab samples will be collected from the first manhole upstream of the basin from each of the storm drains. Effluent samples will be collected from the discharge pump station wet well.

Duck Creek Detention Basin

Industrial activities dominate the land use for the Duck Creek watershed. The basin is located at 555 Zephyr Drive near the intersection of Producers Drive and Zephyr Drive. Access to the basin is via a locked gate. Two storm drains discharge to the basin. One of the influent drains is the City monitoring location DC-65, and will serve as one of the influent sampling locations. Grab samples will be collected from the other influent storm drain. Effluent samples will be collected from the discharge pump station wet well.

Auto Center Detention Basin

Commercial activities are predominant in the watershed surrounding the Auto Center detention basin. Access is controlled with a locked gate. The basin is located near the intersection of the Union Pacific Railroad and Hammer Lane. There is one influent storm drain to the basin and influent samples will be collected from the first manhole upstream of the discharge location. Samples representative of the effluent will be collected from the discharge pump station wet well.

9.5.2 BMP Effectiveness Study

The Permittees shall conduct or participate with Modesto and Sacramento-area Permittees in at least three studies to evaluate the effectiveness of source or treatment control BMPs. Goals of the studies include:

1. Monitor reduction of pollutants of concern in stormwater due to a properly installed BMP. Minimum pollutants include: pathogen indicators, nutrients, heavy metals, and pesticides. Continue monitoring until the effectiveness can be determined. May be combined with the Smith Canal study.

2. Evaluate the requirements for, and installation and maintenance cost of each BMP.

3. Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in stormwater in the Stockton Urbanized Area.

9.6 DATA REPORTING

A summary of the monitoring performed prior to June 30th of each year will be reported in the annual report due September 1st of each Permit year. The report will contain a summary of completed field activities and the appropriate analytical and sampling data. The report will include the results of a complete data evaluation based on the collected quality control (QC) samples and the laboratory quality assurance (QA) program. Data will be qualified according to the EPA standard procedures. The reported data will be compared to the applicable water quality standards in the Water Quality Control Plan for the California RWQCB, Central Valley Region (Basin Plan), the California Toxics Rule (CTR), and California Title 22.

Section 10
PROGRAM IMPLEMENTATION, EVALUATION, AND REPORTING

10.1 OVERVIEW

The City is implementing the Stormwater Management Plan (SWMP) through the establishment and completion of the program specific Control Measures and Performance Standards. In order to ensure that the various department and division staff understand their roles and responsibilities under the SWMP, the City will develop and provide a series of classroom and field training modules. By having responsible department and division staff attend the training modules, the City will be able to effectively implement the SWMP.

The City will evaluate the effectiveness of their program by compiling and reviewing the program data. These assessments will allow the City to identify trends, necessary improvements or data gaps and modify the SWMP accordingly in order to make sure that it remains effective in addressing stormwater pollution. The results of these assessments and proposed modifications to the SWMP will be provided to the Regional Board on an annual basis.

10.2 PROGRAM IMPLEMENTATION

With the exception of the development standards, the Permit requires the co-permittees to have fully implemented the SWMP requirements by September 1, 2004. The Stormwater Management Plan (SWMP) has been structured to identify the specific activities that must be implemented as well as the responsible party for implementing the activities. This has been accomplished through the establishment of Control Measures and Performance Standards. However, some control measures and performance standards require a series of tasks to be undertaken in order to complete them. Therefore, progressive implementation of the performance standards throughout the permit term will be necessary in order to completely implement the program elements.

Successful implementation of the SWMP also requires an extensive training effort by the City to ensure that its employees understand the Stormwater Program and conduct their activities in a manner to minimize pollutants from stormwater discharges. The City's proposed training effort is described in the following section.

10.2.1 TRAINING PROGRAM

The ultimate success of the SWMP is directly related to and dependent upon the implementation and effectiveness of the training program efforts. In fact, an effective training program is one of the most effective pollution prevention Best Management Practices (BMPs) that can be implemented because it prompts behavioral changes that are fundamentally necessary to protect water quality.

The goals and objectives of the training program are to:

- Implement a comprehensive and effective stormwater management program;
- Create a cohesive stormwater education program that will prompt the behavioral changes needed to improve water quality;
- Increase the general understanding of water pollution problems and pollution prevention techniques; and
- Increase the specific knowledge of the SWMP and its requirements

As noted throughout the SWMP, many municipal employees will be associated with the protection of water quality through the implementation of the SWMP. To implement each of the program elements the co-permittees will develop audience/subject specific training programs. A summary of the proposed training programs is shown in **Table 10-1**.

Table 10-1
Summary of Proposed Training Activities

SWMP Program Element	Audience	Format	Subject Material to be Covered	Schedule or Frequency	Comments
Illicit Connections/ Illegal Discharges	• Public Works maintenance crews • Industrial inspectors • Building and construction inspectors • Police Dept. • Fire Dept. • Office of Emergency Services Div. crews	• Classroom • Field demos	• Overview of stormwater management • Stormwater ordinance and enforcement policy • First Responder • HazMat Response • Tracking database	• Once every two years (with half of the staff being trained each year)	• Training seminars or workshops related to ID/ICs may be made available by other organizations. • Required by Permit provision D.13.c
Municipal	• Maintenance crews • Road crews • Street sweepers • Parking Facilities crews • Waste Pickup • Parks & Rec. crews • Pesticide/fertilizer applicators • Contract/lease staff involved in above activities.	• Classroom • Field demos • Tailgate sessions	• Overview of stormwater management • BMPs for municipal operations • Stormwater ordinance and enforcement policy	• Annually	• Pesticide applicators must also attend annual pesticide application classes. • Required by Permit provision D.12.b.vii(e)
	• Public Works design staff	• Classroom	• Overview of stormwater management • New Development Standards and specifications • Construction activities BMPs • SWPPP requirements and standards	• Once every two years (with half of the staff being trained each year)	• Relates to Permit provision D.12.b.ii
Industrial/ Commercial	• Stormwater inspectors • Industrial Pretreatment inspectors • Industrial Waste inspectors • Restaurant inspectors	• Classroom • Field demos • Tailgate sessions	• Overview of stormwater management • Stormwater ordinance and enforcement policy • Industrial stormwater inspection training • BMPs for industrial/ commercial facilities • BMPs for Restaurants • Tracking database	• Once every two years (with half of the staff being trained each session)	

SWMP Program Element	Audience	Format	Subject Material to be Covered	Schedule or Frequency	Comments
Construction	• Stormwater construction inspectors • Building inspectors • Grading permit inspectors	• Classroom • Field demos • Tailgate sessions	• Overview of stormwater management • Stormwater ordinance and enforcement policy • Construction stormwater inspection training • BMPs for construction activities • Tracking database	• Annually	• Required by Permit provision D.10.d
	• Grading plan and SWPPP reviewers	• Classroom	• Overview of stormwater management • BMPs for construction activities • SWPPP requirements • Tracking database	• Once every two years (with half of the staff being trained each year)	• Required by Permit provision D.10.d • Relates to Permit provision D.10.b.v
Planning and Land Development	• CED Plan Reviewers • Stormwater Program plan reviewers	• Classroom	• Overview of stormwater management • Stormwater ordinance and enforcement policy • Guidance Manual for New Development overview • Post-construction BMP overview • Tracking database	• Annually	• Required by Permit provision D.27
Monitoring	• Stormwater monitoring staff	• Classroom	• Clean sampling techniques • Overview of Monitoring Plan objectives	• Annually	

10.2.2 Training Program Documentation

In order to determine the relative effectiveness of the training program it is necessary for the co-permittees to keep appropriate records of the various training sessions that the municipal employees have attended. This is especially true given that a summary of each training session, including staff name, department, type of training, and date of training, is required to be submitted in the Annual Report. The standardized tracking sheet, such as the one presented in **Table 10-2**, will be used to track all the trainings that are performed.

Maintaining records of training provided to staff allows the co-permittees to:

- Determine which staff require which training session;
- Determine when training sessions must be conducted; and
- Document evidence of training for enforcement and compliance purposes.

Table 10-2. Training Log for the Stormwater Program

Name of Workshop / Training: Sponsoring Organization / Department: Instructors: General Description of the Subject Matter: Location: Date:				
Name of Attendee(s)	**Title**	**Department**	**Phone**	**E-Mail**

10.2.3 Control Measures and Performance Standards

The control measures and performance standards for the stormwater program training are listed below.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Division	MUD Maintenance Div.	Community Development. Dept.	Public Works Maintenance. Division	Public Works Engineering Division	Parks and Recreation Division	City Attorney
Illicit Connections/Illegal Discharges											
Develop classroom and field training modules	X	X			P						
Train key personnel bi-annually	X		X		P	P	P	P	P	P	
Municipal Program											
Develop classroom and field training modules	X	X			P						
Train key operations personnel annually (first by April 1, 2004)	X	X	X	X	P	P		P	P	P	
Train key design staff bi-annually	X		X		P	P			P		
Industrial/Commercial Program											
Develop classroom and field training modules	X				P						
Train key personnel bi-annually	X		X		P	P					
Construction											
Develop classroom and field training modules	X	X			P						
Train key inspection staff annually	X	X	X	X	P		P		P		
Train key plan review staff bi-annually	X		X		P		P		P		
Planning and Land Development											
Develop classroom training modules	X				P						
Train key personnel annually (first by April 1, 2004)	X	X	X	X	P		P	P	P		
Water Quality Monitoring Program											
Develop classroom training modules	X				P						
Train key personnel annually	X	X	X	X	P						

10.3 PROGRAM EVALUATION

The program elements developed in this Stormwater Management Plan will be evaluated for their effectiveness on a regular basis. The following sections outline several measures that will be used to collect data, compare and evaluate information, report results, and modify the program as needed.

This section focuses primarily on program data, as opposed to water quality data. Although the co-permittees will implement an aggressive monitoring program (Section 9), the nature of water quality monitoring is such that the program is not likely to see measurable changes in water quality within the permit term. As a result, the City must rely on program evaluation techniques that use non-water quality parameters. Generally, program evaluation will be conducted by comparing how well the City did at implementing program elements, which are likely to lead to stormwater quality improvement.

10.3.1 PERFORMANCE STANDARDS

The program elements described in this Stormwater Management Plan have a list of control measures that the City will follow, and all have associated performance standards. These performance standards are to be considered the minimum level of implementation that the City must achieve. Where performance standards have been set, the City's program is considered to be effective if the performance standard is equaled or exceeded. These performance standards will be reviewed annually to determine whether the City has met its implementation obligations.

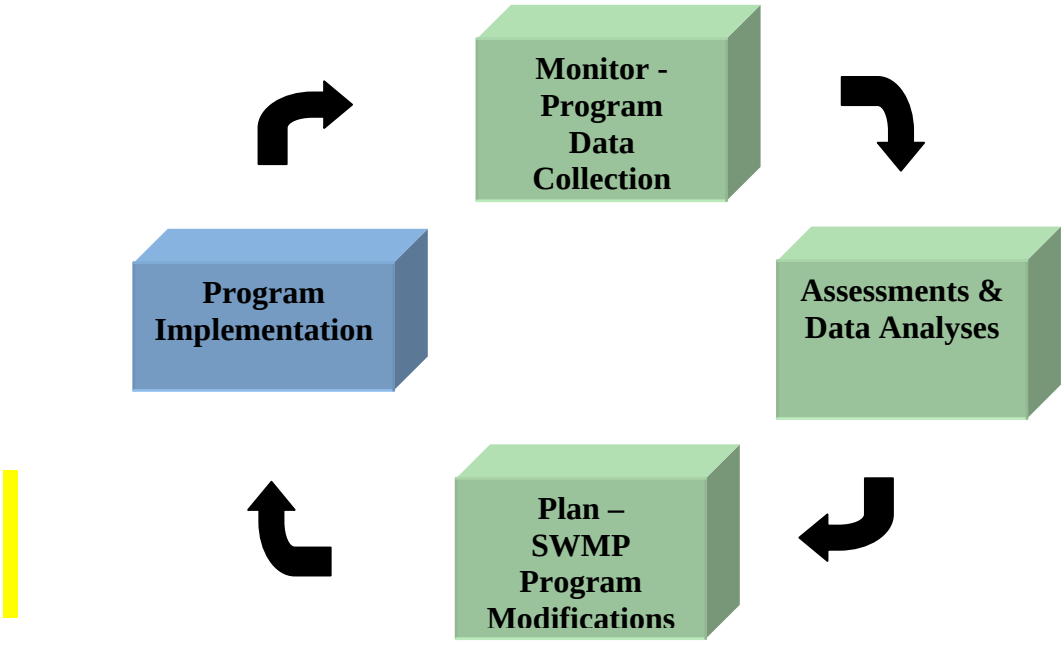
10.3.2 ASSESSMENT TASKS

Several assessment tasks have been identified to facilitate reporting and program evaluation: forms for collecting program data, an electronic database to compile data, and recording of policy adoption.

The City will keep track of program data in sufficient detail to implement and document the City's activity and to help keep track of information required for the Stormwater Management Plan

This information will be compiled and reviewed each year to assess trends, improvements and data gaps. The annual review will also provide the City with an opportunity to identify modifications to the SWMP to better address potential stormwater quality issues (see **Figure 10-1**).

Figure 10-1
Program Evaluation Process



As specified in Section 9.0, an annual review of the water quality monitoring program data will also take place so that the City can evaluate the long-term effectiveness of the overall stormwater program in reducing pollutants in stormwater runoff. The direct water quality monitoring is important because it provides data that can help estimate pollutant loads from regional land uses and may even help quantify the impact and effectiveness of the SWMP.

10.4 REPORTING

The City and County of San Joaquin will coordinate their efforts in developing standardized formats for all reports that are required pursuant to the stormwater Permit. This will include annual reports, fiscal analysis reports and program effectiveness reports. Pursuant to the federal regulations, all work plans and reports will be signed and certified.

10.4.1 Work Plan

An Annual Work Plan will be submitted to the Regional Board by April 1 of each year. The work plan will summarize the proposed activities that the City will undertake during the next fiscal year (July 1 – June 30). While the annual work plan will generally follow the long term control measures and performance standards outlined within the SWMP, it may also include additional activities that the City has identified as being necessary during the previous reporting period.

10.4.2 Annual Report

The permit requires that an annual report is submitted in both electronic and hard copy to the Board by September 1 of every year. The purpose of the Annual Report is to document the status of the SWMP implementation, present results from activities implemented, provide a compilation of deliverables and milestones reached during the previous fiscal year and report on the overall status and effectiveness of the SWMP. The format that will be used for the annual report will be based on the format that was included as Attachment B to the Permit. Updates, improvements, or revisions to the SWMP may also be proposed in the Annual Report.

The Annual Report must include:

- An Executive Summary discussing the effectiveness of SWMP in reducing stormwater pollution to the maximum extent practicable;
- Summary of activities conducted by the City (including an up-to-date organizational chart);
- Identifications of BMPs and discussion of their effectiveness;
- Summary of monitoring data including the identification of water quality improvements or degradation and recommendations for improvements to the SWMP based on the monitoring results;
- Assessment of stormwater program with applicable water quality standards including the identification of water quality improvements or degradation;
- If the water quality data indicates that the discharges are causing or contributing to exceedances of applicable water quality standards, the report shall include a discussion of how the Permittees plan to comply;
- A summary of any Reports of Water Quality Exceedances (RWQEs);
- Estimate of annual pollutant loads for each sampling station;
- Maps and description of monitoring station locations; and
- Recommendations to improve the monitoring program, BMPs, Performance Standards, and the SWMP.

The City and County have the same reporting requirements and the annual reports are similar in nature except for the reporting related to the monitoring program which is provided by the City of Stockton on behalf of both Permittees.

10.4.3 SWMP Modification

Based on the program evaluation and experience in the implementation of the various control measures, the SWMP may need to be modified, revised, or amended periodically in order to respond to changing conditions or to incorporate more effective approaches. In addition, the City may also need to revise the SWMP in order to comply with regional/watershed-specific requirements or waste load allocations developed and approved pursuant to the Total Maximum Daily Load (TMDL) process. Proposed revisions will be provided to the Regional Board as a part of the Annual Report submittal.

A thirty-day public notice and comment period will apply to all proposed revisions to the SWMP. Significant SWMP revisions would be brought before the Regional Board for review and approval. Minor SWMP revisions could be approved by the Executive Officer of the Regional Board.

10.4.4 Report of Waste Discharge

The municipal stormwater Permit expires on October 1, 2007. As a result, the City and County are required to submit a Report of Waste Discharge (ROWD) to the Board 180 days prior to its expiration (April 1, 2007). The ROWD serves as the application for the re-issuance of the permit.

10.4.5 Control Measures and Performance Standards

The control measures and performance standards for the stormwater program reporting are listed below.

IMPLEMENTATION SCHEDULE

Control Measure and Performance Standards	Implementation Schedule				Responsibility						
Reporting	2003-2004	2004-2005	2005-2006	2006-2007	MUD Stormwater Mgt Division	MUD Maintenance Div.	Community Development. Dept.	Public Works Maintenance. Division	Public Works Engineering Division	Parks and Recreation Division	City Attorney
Submittal of work plan (by April 1 each year)	X	X	X	X	P						
Development of standardized annual reporting format	X	X			P						
Submittal of annual report (by Sep 1 each year)	X	X	X	X	P	S	S	S	S	S	
Submittal of ROWD (by April 1, 2007)				X	P						